New York Supreme Court

Appellate Division—Second Department

Docket No.: 2020-02580

In the Matter of the Application of

SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC.,

Petitioners-Appellants,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules

– against –

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, Commissioner and HELIX RAVENSWOOD LLC,

Respondents-Respondents.

APPENDIX
Volume 1 of 2 (Pages A-1 to A-600)

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Queens County Clerk's Index No. 2402/19

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STATEMENT PURSUANT TO CPLR § 5531 [A-1-A-2]

New York Supreme Court

Appellate Division—Second Department

In the Matter of the Application of

SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC.,

Petitioners-Appellants,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules

– against –

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, Commissioner and HELIX RAVENSWOOD LLC,

Respondents-Respondents.

1. The index number of the case in the court below is 2402/19.

2. The full names of the original parties are as set forth above. There have been no changes.

3. The proceeding was commenced in Supreme Court, Queens County.

4. The proceeding was commenced on or about April 18, 2019 by filing of a Verified Petition. Issue was joined on or about August 12, 2019 by service of a Verified Answer.

5. The nature and object of the proceeding is for a Judgment and Order vacating and annulling the 2019 Ravenswood Permit, and the 2018 Negative Declaration.

6. This appeal is from the Decision and Order of the Honorable Ulysses B. Leverett, dated October 31, 2019 which denied the Petition seeking a Judgment and Order vacating and annulling the 2019 Ravenswood Permit, and the 2018 Negative Declaration.

7. This appeal is on the Appendix Method.

NOTICE OF APPEAL, DATED JANUARY 31, 2020 [A-3 - A-4]

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS

In the Matter of the Application of

SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC.

Petitioners,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

NOTICE OF APPEAL

Index No. 2402/19

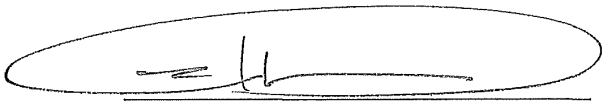
–against–

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER, and HELIX RAVENSWOOD LLC,

Respondents.

PLEASE TAKE NOTICE that Petitioners Sierra Club and Hudson River Fishermen's Association New Jersey Chapter Inc. (collectively "Petitioners") hereby appeal to the Appellate Division of the Supreme Court, Second Judicial Department, from the Decision and Order of the Supreme Court, Queens County, Hon. Ulysses B. Leverett, Supreme Court Justice Presiding, dated October 31, 2019, entered in the Queens County Clerk's Office on November 7, 2019, with Notice of Entry served by mail by Petitioners' counsel upon Respondents' counsel on January 7, 2020. A copy of the October 31, 2019 Decision and Order is attached hereto as Exhibit "A" and Petitioners hereby appeal from each and every part of the October 31, 2019 Decision and Order.

DATED: New York, New York
January 31, 2020



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NOTICE OF ENTRY OF THE DECISION AND ORDER, DATED JANUARY 7, 2020 [A-5 - A-6]

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS

In the Matter of the Application of

SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC.

Petitioners,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

–against–

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER, and HELIX RAVENSWOOD LLC,

Respondents.

NOTICE OF ENTRY

Index No. 2402/19

PLEASE TAKE NOTICE that the attached document is a true and correct copy of the Decision and Order of Justice Ulysses B. Leverett of the Queens County Supreme Court dated October 31, 2019 and entered on November 7, 2019.

This constitutes your notice of entry.

DATED: New York, New York
January 7, 2020

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A-6

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SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS

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In the Matter of the Application of
SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC,

Petitioners,

For a Judgment Pursuant to Article 78
of the Civil Practice Law and Rules

-against-

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER, and HELIX RAVENSWOOD LLC,

Respondents.

FILED & RECORDED
NOV 07 2019
COUNTY CLERK
QUEENS COUNTY

Index No. 2402/2019
Seq. No. 1

DECISION/ORDER

Present: **HONORABLE ULYSSES B. LEVERETT**:

Petitioners Sierra Club and Hudson River Fishermen's Association, New Jersey Chapter Inc. bring this Article 78 proceeding to challenge the actions of respondents New York State Department of Environmental Conservation (Respondent DEC) in issuing a water withdrawal permit to respondent Helix Ravenswood LLC (Respondent HRLLC) on February 20, 2019 authorizing HRLLC's Ravenswood Generating Station in Long Island City, Queens to withdraw up to 1,527,840,000 gallons of water per day from the East River in New York Harbor Estuary for operation of the station's once through cooling system (2019 Ravenswood Permit) and in making a determination on September 25, 2018, that the proposed action would have no significant impact on the environment (2018 Negative Declaration).

Petitioners assert that the 2019 Ravenswood Permit and the 2018 Negative Declaration were deficient because Respondent DEC failed to comply with the state water withdrawal permitting law, Environmental Conservation Law (ECL), Article 15, Title 15, the water permitting regulations, 6 NYCRR Part 601, the State Environmental Quality Review Act (ECL) Article 8 (SEQRA), and the SEQRA regulations, 6 NYCRR Part 617.

Petitioners seek a judgment and order vacating and annulling the 2019 Ravenswood permit and the 2018 Negative Declaration as being a violation of lawful procedure, affected by errors of law, arbitrary, capricious and an abuse of discretion.

Parties

Petitioner Sierra Club is a national grassroots nonprofit conservation organization formed in 1892. Its purposes include practicing and promoting the responsible use of earth's ecosystems and resources, and protecting and restoring the quality of the natural and human environment.

The protection of water resources is a key aspect of the Sierra Club's work. Sierra Club has approximately 800,000 members nationwide, including approximately 50,000 members in New York and approximately 21,000 members in New Jersey.

Petitioner Hudson River Fishermen's Association (HRFA) is a regional non-profit conservation organization founded in 1966. HRFA's mission is to encourage the responsible use of aquatic resources and protection of habitat. HRFA has approximately 300 members. HRFA's members are recreational fishermen who make active use of the Hudson River and its watershed, including the East River and the New York Harbor Estuary. The HRFA claim injury by environmental damage to the East River.

Petitioners have organizational standing to bring this petition based on their zone of interest in the aesthetic and environmental protection of New York water resources. *See* Affidavits of Roger Downs and Gilbert Hawkins, *see also Sierra Club v. Morton*, 405 U.S. 727 (1972), and *Association for a Better Long Island, Inc. v. New York State Department of Environmental Conservation*, 23 N.Y.3d 1 (2014).

Respondent DEC is an administrative agency of the State of New York. DEC is the governmental body responsible for environmental protection in the State of New York and for the protection of New York's natural resources, including New York's waters. DEC was established by chapter 140 of the Laws of 1970, and administers the water supply permit program pursuant to ECL Article 15, Title 15.

Respondent HRLLC is the current owner of the Ravenswood electric generating facility located on the East River in Long Island City, New York. Respondent's predecessor owner was Trans Canada Ravenswood LLC. The facility has the generating capacity of 2,480 megawatts and can produce up to 21% of the total electricity used by New York City. The Ravenswood facility has three steam boiler turbine/generators, known as Unit 10, 20 and 30; a combined cycle unit known as Unit 40 and several combustion turbines. Since the mid-1960s the facility has used a once-through cooling water system, which withdraws water from the East River that is circulated through the cooling system to cool Units 10, 20 and 30. The once-through water is not consumed by the facility but discharged back in the East River. The withdrawn water is critical to prevent overheating during the production of electricity. The maximum withdrawal capacity of the facility cooling water system is 1,527,840,000 gallons of water per day but the actual amount of cooling water needed per day varies based on the units in operation and the time the unit is operating.

In 2017, the average withdrawal by the Ravenswood facility was approximately 371 million gallons per day (MGD). In 2018, the average withdrawal was 520 MGD.

Applicable Federal and State Laws and Regulations

The Ravenswood facility cooling water intake system, discharges heated/thermal water, a defined pollutant, back into the East River and is accordingly regulated by the National and State Pollutant Discharge Elimination System. *See* 33 USC §1362(6); ECL §17-0105(17) and 6 NYCRR Part 704.

The Federal Clean Water Act of 1972 (CWA) regulates discharge to surface water in the U.S. and authorized the National Pollutant Discharge Elimination System (NPDES) permit program to control US water pollution by regulating the industrial source. The CWA allows

states to supersede the federal program by developing and administering their own permitting programs, if the US Environmental Protection Agency (EPA) finds the state program to be as stringent as the federal program. See 33 USC §1342(b), (c).

The New York version of the NPDES program, known as State Pollutant Discharge Elimination System (SPDES), was established by the New York Legislature in 1973 and approved by the EPA in 1975. *See* ECL §17-0701 et seq.; 6 NYCRR Parts 700-706 and 750. In addition to impacts from heated effluent upon discharge, respondent facility adverse environmental impacts from cooling water intake, structure impingement of fish and entrainment of aquatic organisms, including fish eggs and larvae, are subject to Best Technology Available (BTA) requirements. Respondent DEC issued SPDES permit to Ravenswood Facility in 2007, which was renewed on November 1, 2012 and was applicable to the cooling water intake system contained therein and BTA determinations. *See* CWA §316(b) and 6 NYCRR §704.5.

Additionally, the Water Resource Law (WRL), ECL Article 15, declared New York State sovereign power to regulate and control its water resource. *See* ECL §15-0103(1). In 2009, Title 33 was added to the WRL to require entities such as respondent Ravenswood, that withdraw more than 100,000 gallons of water per day to file annual withdrawal reports with the DEC. In 2011, the legislature passed the Water Resources Protection Act (WRPA) which repealed Title 33 and replaced it with Title 15, which authorizes DEC to implement a statewide permitting system for commercial and industrial water withdrawal of 100,000 gallons or more per day. *See* ECL §15-1501(1); 15-1502(14).

Respondent DEC promulgated regulations implementing the new permit requirements in November 2012 which became effective April 1, 2013. See 6 NYCRR Part 601. The WRPA and the DEC implementing regulations distinguished between "existing" and "new" water withdrawals. DEC issued two types of water withdrawal systems that did not need permits prior to the 2011 amendments; "initial permits" for most systems that were in existence in February 2012 and reported their maximum capacity to the DEC under the 2009 amendments and "new permits" for all other systems.

On May 31, 2013, Ravenswood Facility as a holder of a SPDES permit, timely applied for an initial water withdrawal permit by the required date of June 1, 2013. See 6 NYCRR §601.7(b)(3). DEC issued an initial permit to Ravenswood on November 15, 2013, amended March 7, 2014, (2013 Initial Permit) which permitted withdrawal equal to the 1.5 billion GPD previously reported to DEC prior to February 15, 2012.

Finally, the State Environmental Quality Review Act (SEQRA), codified at Article 8 of the ECL requires New York State agencies to assess the environmental significance of all actions they have discretion to approve, fund or directly undertake. The agency must take a "hard look" at relevant areas of environmental concerns, classify the "action" under review and make a reasoned elaborated basis for its determination of a positive declaration or negative declaration of significant adverse environmental impact. The DEC's regulation implementing SEQRA are codified at 6 NYCRR Part 617.

Relevant Prior Proceeding

In a prior related Supreme Court Article 78 proceeding, *Sierra Club, et al. v. Martens, Trans Canada Ravenswood LLC et al*, Index No. 2949/14 (New York Sup. Ct., Queens County, Oct. 1, 2014), petitioners challenged DEC issuance of the Ravenswood 2013 Initial Permit for

water withdrawal. There, defendant DEC argued that the issuance of an initial permit to the then owner Trans Canada Ravenswood facility was a ministerial act not subject to SEQRA review for environmental concerns as specified in the 2011 amendments to the Environmental Conversation Law, ECL §15-1501(9). The amended water withdrawal permit statute provided in relevant part:

> The department shall issue an initial permit, subject to appropriate terms and conditions as required under this article, to any person not exempt from the permitting requirements of this section, for the maximum water withdrawal capacity reported to the department pursuant to the requirements of title sixteen or title thirty-three of this article on or before February fifteenth, two thousand twelve.

The petitioners in *Sierra Club, et al. v. Martens, Trans Canada Ravenswood LLC et al* argued that DEC had discretion pursuant to ECL §15-1503 to specify the terms and conditions of all water withdrawal, including whether the proposed water withdrawal would be implemented so that no significant individual or cumulative adverse impacts on the quantity or quality of water source or its natural resources.

The *Martens* Court decision by Justice Robert McDonald dated October 1, 2014 and judgment entered December 10, 2014, found in pertinent part, "The issuance of an initial permit is a ministerial act not subject to review under SEQRA or the Waterfront Act. Accordingly, the petition is denied."

The petitioners Sierra Club, et. al. appealed the decision and judgment denying their Article 78 review of DEC determination to grant respondent Trans Canada Ravenswood LLC's application for a water withdrawal permit pursuant to the Environmental Conversation Law, ECL §15-1501(9), to the Appellate Division, Second Judicial Department.

The Appellate Court by Opinion and Order in Sierra Club v. Martens, 158 A.D.3d 169 (2018) stated:

> We hold that the issuance of an "initial permit" for making water withdrawals pursuant to Environmental Conversation Law, ECL §15-1501(9) is not a ministerial act that is excluded from the definition of "action" under the State Environmental Quality Review Act.

The Appellate Court found,

> The DEC has the power to grant or deny permit, or to grant a permit with conditions, and in doing so, must consider a number of statutory factors, including whether "the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water source and water dependent natural resources," and whether "the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures." (ECL §15-1503[2][f], [g]).

The *Martens* Appellate Court noted ECL §15-1501(9) states, "[the DEC] shall issue an initial permit, subject to appropriate terms and conditions as required under this article...for the maximum water withdrawal capacity reported to the DEC on or before February 15, 2012." The DEC's implementing regulations of the Water Resources Protection Act ECL §15-1501et seq

provides that an "initial permit...includes all terms and conditions of a water withdrawal permit, including environmentally sound and economically feasible water conservation measures to promote the efficient use of supplies, is subject to modification, suspension and revocation." 6 NYCRR 601.7[e].

The Appellate Court determined that the words "subject to appropriate terms and conditions as required under this article" in ECL §15-1501(9) gave DEC discretion to impose terms and conditions on the initial permit for the "action" of water withdrawal by defendant Ravenswood. The Appellate Court stated that DEC permitting process of the withdrawal "action" was discretionary requiring reason, judgment, agency expertise, and the application of law rather than a ministerial act requiring direct adherence. The Court found that ECL §15-1501(9) term "shall issue" an initial permit to an existing operator was for the existing amount of water usage but the permit was also "subject to appropriate terms and conditions" of the statute. *See also* ECL §15-1503(2).

The Appellate Court, in reversing the Supreme Court judgment, held that the initial permit, as amended, was annulled and the matter was remitted to DEC for further proceedings on Trans Canada Ravenswood's permit application in accordance with SEQRA. The remainder of the petition including the validity of the underlying Trans Canada Ravenswood Facility 2013 Initial Permit was denied as academic.

Rationale for 2018 Negative Declaration and 2019 Permit

The prior litigation regarding the November 2013 Permit commenced in December 2013 and continued until the Appellate Division ruling in January 2018. In August 2017, respondent HRLLC submitted an application to DEC to transfer the initial water withdrawal permit from Trans Canada Ravenswood LLC to HRLLCC based on the change in controlling membership of the facility's LLC. On September 29, 2017, DEC issued an initial water withdrawal permit to HRLLC to withdraw 1,527,840,000 GPD of water from the East River for once through cooling related to electrical generation. On January 10, 2018, the Appellate Division annulled the initial September 29, 2017 water withdrawal permit that DEC issued to HRLLC based on DEC's improper issuance of the permit as a ministerial act not subject to review under SEQRA.

Upon the Appellate Court remittal to DEC for further proceedings in accordance with SEQRA to determine significant adverse impact on the environment, the DEC reclassified the action from the non-ministerial Type II action to a Type I action based on the criteria in 6 NYCRR §617.4(b)(6)(ii). DEC consistent with actions classified as Type I and pursuant to its regulations in determining the "environmental significance," by letter dated April 13, 2018 asked respondent HRLLC the "project sponsor" to submit a completed and signed Part 1 of a 3 part Full Environmental Assessment Form (FEAF) and a letter from the owner or owner's representative indicating what changes to the water withdrawal system had been made since HRLLC initial transfer application of August 2, 2017. *See* 6 NYCRR §617.6(a)(2) and (3); 6 NYCRR §617.2(m).

Respondent HRLLC submitted Part 1 of the FEAF about May 4, 2018 and advised DEC that no changes had been made to HRLLC's water withdrawal system. DEC completed Part 2 of the FEAF on July 6, 2018 after review of relevant material including Ravenswood's Annual Water Reports, Yearly Verification Monitoring Plan Status Reports and SPDES permit information from 2006 and 2012.

Respondent DEC completed Part 3 of FEAF on September 25, 2018 concluding that there would be no significant adverse impacts by issuing the permit to HRLLC to withdraw up to 1,527,840,000 gallons per day. Following the September 25, 2018 issuance of the negative declaration, DEC provided public notice of the proposed permit on October 3, 2018 in the Environmental Notice Bulletin, and received comments until November 17, 2018. DEC also issued responses to comments on the 2019 Permit and amended the Negative Declaration on February 14, 2019 to address SEQRA related comments.

DEC asserts that its cumulative impact determination was rational and reasonable because DEC took a "hard look" at areas of environmental concern and made a reasoned elaboration for the basis of its determination of a Negative Declaration of impact which requires no prepared environmental impact statement (EIS). *See H.O.M.E.S. v. New York State Urban Dev. Corp.*, 69 A.D.2d 222 (4th Dept. 1979), and 6 NYCRR §617.2(a), §617.7(a)(1) and §617.7(c)(1)(i). DEC determined that respondent HRLLC's action or proposed permit made no change to the pre-existing condition or "baseline" withdrawal of 1.5 billion GPD that Ravenswood had previously lawfully withdrawn. *See Lazard Realty, Inc. v. New York State Urban and Dev. Corp.*, 142 Misc.2d 463 (Sup. Ct., New York Cnty. 1989) and *American Rivers v. Ferc*, 201 F.3d 1186 (9th Cir. 1999)(affirming existing conditions baseline.)

DEC also examined the eight statutory provisions in ECL §15-1503(2)(a) – (h) and supported its determination in responses to public comment and other documents in the administrative record as specially set forth in the New York State Attorney General memorandum of law pages 20 to 31 as well as respondents' supporting affidavit of engineer Erik Schmitt dated August 12, 2019.

The DEC made the eight determinations required for permitting which included ECL §15-1503(2)(a); whether "the proposed water withdrawal takes proper consideration of other sources of supply that are or may become available." The East River as strait to the Atlantic Ocean has a vast supply of water in comparison to headwater of tributaries or grand aquifers. Portions of the 2013 and 2017 water withdrawal permit states "the siting of the electric generating facility along the East River is ideal due to the plentiful surface water supply for once through cooling."

ECL §15-1503(2)(b): whether "the quantity of supply will be adequate for proposed use." The facility has been making similar withdrawal since 1963 without any water quantity issue. The engineer's report of 2013 and 2017 detailed the water source of the East River. The cooling system withdraws approximately 1% of the mean tidal of the East River and returns all withdrawn water back to the source. DEC determined quantity of the water supply to be adequate.

ECL §15-1503(2)(c): whether "the project is just and equitable to all affected municipalities and their inhabitants with regard to their present and future needs for source of potable water supply." Ravenswood withdraws saltwater from the East River. No municipalities in the area withdraws water from the East River for potable water purposes. DEC determined that the project was equitable and just to municipalities and individuals regarding needs for potable water supply.

ECL §15-1503(2)(d): whether "the need for all or part of the proposed water withdrawal cannot be reasonably avoided through the efficient use and conservation of existing water supplies." Ravenswood is not seeking increase to its water withdrawal in its permit application.

The water withdrawal capacity is needed to generate electrical power for the New York City Water Conversation Measure to reduce water use and impact on fisheries contained in the Biological Monitoring Requirement section of the 2012 SPDES Permit were incorporated by reference and includes installation of variable speed pumps and scheduling planned outage of the facilities circulation water pumps (CWP). The 2019 Permit also contains conditions of installing and maintaining meters and other measuring devices with yearly calibration, maintain records, conduct yearly audits to determine unaccounted waters, and submitting annual water withdrawal reports. DEC determined that the water withdrawal cannot be reasonably avoided through the use of efficient use and conservation of existing water supplies.

ECL §15-1503(2)(e): whether "the proposed water withdrawal is limited to quantities that are considered reasonable for the purposes for which the water is proposed." Ravenswood's 2013 and 2017 engineers reported that circulating water pumps were retrofitted with variable frequency drives "to allow for reduced surface water withdrawal at reduced generation loading and reduced cooling water temperatures." The quantity of water withdrawn is returned to its source. DEC determined that the water withdrawal was reasonable for the purposes proposed.

ECL §15-1503(2)(f): whether "the proposed water withdrawal will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity and quality of the water source and water dependent natural resources." Respondent DEC asserts that the 2019 Permit would not add to the impact from all water withdrawals from the resource because the 2019 Permit would not authorize any increase of withdrawal against a baseline of correct operations under existing environmental, operational and technology control. DEC determined that the facility overall level of impact was 2 – 3%, that the permit required reduced impingement by an additional 90% and entrainment by 65% from previous baselines. DEC provided documentation of information for its determination including review of comparable data from SPDES. See Schmitt Affidavit at paragraphs 23 and 25. DEC determined that the 2019 Permit would not have any significant cumulative adverse impact on aquatic life or other water dependent resources.

ECL §15-1503(2)(g): whether "the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures." DEC asserts that its evaluation of respondent HRLCC withdrawal to be environmentally sound and economically feasible, does not require DEC to evaluate any specific water conservation measure including a closed – cycle cooling system requested by petitioner. The respondent 2019 Permit included five general permit condition and ten site specific conditions including auditing and reporting, incorporation of SPDES water conservation and fisheries protection, installations variable speed pumps and scheduled power outages. *See* A.R. 544 – 545. Additionally DEC responded to petitioner closed – cycle cooling request and explained the non "availability" of the system at the particular facility site. The restrictions included the limited physical area on the property for required "dry" cooling towers, and intensity of the immediate neighboring development. A closed cycle cooling system that uses "wet" cooling methods would cause exhaust plumes of cooling vapor and suspended salt and followed by solid salt falling to the ground in this densely populated city. The reasons were previously determined by DEC in selecting BTA for the facility SPDES permits. These factors which lead to the Permit remained unchanged and were reaffirmed by DEC through public comment responses and other information. *See* Schmitt Affidavit paragraph 2. DEC determined that the closed cycle cooling system was economically disproportionate to the gains from

alternative operation controls and technologies that reduced the environmental impact of the cooling intake system. DEC ultimately determined that the water withdrawal authorized by the 2019 Initial Permit will be implemented in a manner that incorporates environmentally sound and economically feasible.

ECL §15-1503(2)(h): requires DEC to determine whether "the proposed water withdrawal will be implemented in a manner that is consistent with applicable municipal, state and federal laws as well as regional interstate and international agreements." Respondent DEC's review of HRLLC's water withdrawal application as well as its prior 2013 and 2017 application material which affirmed compliance with applicable laws including the State Environmental Quality Review Act, the Federal Clean Water Act and the ECL.

DEC affirmed that all attachments submitted to its application were true to the best of the applicant's knowledge and belief. DEC also took account of appropriate aspects of the SPDES permits that overlap considerations made in issuing a water withdrawal permit. DEC determined that the proposed water withdrawals were consistent with applicable laws, interstate and international agreements. *See* 6 NYCRR §601.7 and AR 540 – 553.

The judicial review of respondent DEC's interpretation of the relevant provisions of the ECL as they relate to SEQRA, the WRPA, and the 2019 Initial Permit is limited to whether the determination was made in accordance with lawful procedure, and whether the substantive determination was affected by error of law or was arbitrary and capricious or abuse of discretion. *See Akpan v. Koch*, 75 N.Y.2d 561 (N.Y. 1990) and CPLR §7803(3). An agency's interpretation of a statute or regulation should be granted substantial deference if that agency is responsible for administering the statutory program and its decision is rationally based. *See Carver v. State of New York*, 87 A.D.3d 25 (2d Dept. 2011).

The Court may not substitute its judgment for that of the agency by weighing the desirability of an action or choose among alternatives. *See Riverkeeper, Inc. v. Town of Southeast, 9 N.Y.3d 219* (N.Y. 2007) and *Village of Chestnut Ridge v. Town of Ramapo*, 99 A.D.3d 918 (2d Dept. 2012).

The Court finds based on the foregoing, that respondents have complied with SEQRA and applicable laws in the initial water withdrawal permit that DEC issued on February 20, 2019 to Helix Ravenswood, LLC and the issuance is not arbitrary, capricious in contravention of law or an abuse of discretion.

Accordingly, the petition is denied.

FILED & RECORDED
NOV 07 2019
COUNTY CLERK
QUEENS COUNTY

Dated: October 31, 2019

Ulysses B. Leverett, JSC

CLERK

ENTERED
10:11 AM / PM
NOV 07 2019
COUNTY CLERK
COUNTY OF QUEENS

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS

In the Matter of the Application of

SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC,

Petitioners,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

–against–

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER, and HELIX RAVENSWOOD LLC,

Respondents.

ORAL ARGUMENT REQUESTED

NOTICE OF PETITION

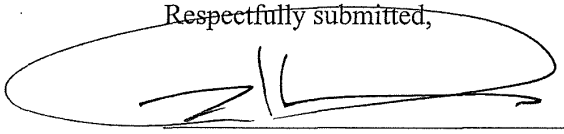
Index No. 2402/19

NO MOTION FEE FILED ON COMMENCEMENT

PLEASE TAKE NOTICE that upon the accompanying verified petition of Sierra Club and Hudson River Fishermen's Association, dated April 18, 2019, Petitioners will move this court, at an I.A.S. Part to be held at the Queens County Court, located at 88-11 Sutphin Blvd., Jamaica, New York, on the 21st day of May, 2019 at ___:00 A.M., for an order and judgment pursuant to Article 78 of the Civil Practice Law and Rules for the relief demanded in the petition and for such other and further relief as this court may deem just and proper.

DATED: New York, New York
April 18, 2019

Respectfully submitted,



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SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS

In the Matter of the Application of

SIERRA CLUB and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER INC.

Petitioners,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

–against–

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER, and HELIX RAVENSWOOD LLC,

Respondents.

ORAL ARGUMENT REQUESTED

VERIFIED PETITION

Index No.

Petitioners, by their undersigned attorneys, respectfully allege as follows:

I. INTRODUCTION

1. This proceeding challenges the actions of Respondent New York State Department of Environmental Conservation ("Respondent DEC") in issuing a water withdrawal permit to Respondent Helix Ravenswood LLC ("Respondent HRLLC") on February 20, 2019 authorizing HRLLC's Ravenswood Generating Station in Long Island City, Queens to withdraw up to 1,527,840,000 gallons of water per day from the East River in the New York Harbor Estuary for operation of the station's once-through cooling system (the "2019 Ravenswood Permit"); and in making a determination on September 25, 2018, that the proposed action would have no significant impact on the environment (the "2018 Negative Declaration").

2. Issuance of the 2019 Ravenswood Permit and the 2018 Negative Declaration are legally deficient because Respondent DEC failed to comply with the requirements of the state water withdrawal permitting law, Environmental Conservation Law ("ECL"), Article 15, Title

15, the water permitting regulations, 6 NYCRR Part 601, the State Environmental Quality Review Act, ECL Article 8 ("SEQRA"), and the SEQRA regulations, 6 NYCRR Part 617.

3. Petitioners seek a judgment and order pursuant to Sections 7803(3) and 7806 of the Civil Practice Law and Rules ("CPLR") vacating and annulling the 2019 Ravenswood Permit, and the 2018 Negative Declaration on the ground that they were issued in violation of lawful procedures, were affected by errors of law, were arbitrary and capricious, and their issuance constituted an abuse of discretion.

II. PARTIES

4. Petitioner Sierra Club is a national grassroots nonprofit conservation organization formed in 1892. Its purposes include practicing and promoting the responsible use of earth's ecosystems and resources, and protecting and restoring the quality of the natural and human environment. The protection of water resources is a key aspect of the Sierra Club's work. Sierra Club has approximately 800,000 members nationwide, including approximately 50,000 members in New York and approximately 21,000 members in New Jersey, including members whose conservation, aesthetic, and recreational interests are injured by the environmental damage caused to the East River, the New York Harbor Estuary, the Hudson River, Long Island Sound and the New York Bight by Ravenswood's water usage for its cooling water intake structures.

5. Petitioner Hudson River Fishermen's Association ("HRFA") is a regional non-profit conservation organization founded in 1966. HRBA's mission is to encourage the responsible use of aquatic resources and protection of habitat. HRFA has approximately 300 members. HRFA's members are recreational fishermen who make active use of the Hudson River and its watershed, including the East River and the New York Harbor Estuary. The

conservation, aesthetic, and recreational interests of HRFA's members are injured by the environmental damage caused to the East River, the New York Harbor Estuary, the Hudson River, Long Island Sound and the New York Bight by Ravenswood's water usage for its cooling water intake structures.

6. Respondent New York State Department of Environmental Conservation ("Respondent DEC") is an administrative agency of the State of New York. DEC is the governmental body responsible for environmental protection in the State of New York and for the protection of New York's natural resources, including New York's waters. DEC was established by chapter 140 of the Laws of 1970, and administers the water supply permit program pursuant to ECL Article 15, Title 15. Respondent DEC's Region 2 Office is located at 1 Hunter's Point Plaza, 47-40 21st Street, Long Island City, New York.

7. Respondent Helix Ravenswood LLC ("Respondent HRLLC") is a corporation authorized to do business in New York with offices and facilities at 38-54 Vernon Boulevard, Long Island City, New York. Respondent HRLLC is a necessary party in this matter because the determinations challenged in this Petition may affect the operations of its Ravenswood Generating Station.

III. STATUTORY AND REGULATORY FRAMEWORK

8. The Water Resources Protection Act of 2011 ("WRPA") was signed into law by Governor Cuomo on August 15, 2011. The Act amended ECL Article 15, Title 15, the Water Supply Law ("WSL"), to require that any person taking 100,000 gallons or more per day from any of the state's waters obtain a withdrawal permit, with certain exceptions.

9. The amended WSL is the first statutory provision in New York law to require that users other than public water supply systems obtain water withdrawal permits. Water withdrawal permits have been required for public water supply systems since 1905.

10. A major impetus for passage of WRPA was to implement the requirements of the Great Lakes-St. Lawrence River Basin Water Resources Compact (the "Compact"), ECL 21-1001. A key provision of the Compact requires that water withdrawals in the basin "incorporate environmentally sound and economically feasible water conservation measures" and "result in no significant individual or cumulative adverse impacts to the quantity or quality of the Waters and Water Dependent Natural Resources and the applicable Source Watershed." *Id.*, Section 4.11.

11. WRPA incorporated the Compact's decision-making standards as a series of determinations that Respondent DEC is required to make before issuing a water withdrawal permit. WRPA applied these decision-making standards to water withdrawal permits issued throughout the New York State, not just to permits issued in the Great Lakes basin.

12. The Governor's press release announcing his signing of WRPA into law stated that "[t]his law will ensure that New York upholds its commitments under the Compact and will protect NY's water resources."

13. Respondent DEC promulgated regulations implementing the new permitting requirements in November 2012. 6 NYCRR Part 601. The regulations became effective April 1, 2013.

14. The schedule for submitting permit applications contained in 6 NYCRR 601.7(b)(2) gave the state's largest water users the first opportunity to apply for a permit. Existing users withdrawing 100 million GPD or more were eligible to apply for a permit in 2013.

The only users eligible to apply in 2013 (and not otherwise exempt from the permitting requirements) were 16 large power plants.

IV. THE RAVENSWOOD PERMITS

A. 2013 Ravenswood Water Withdrawal Permit

15. On August 7, 2013, Respondent DEC announced its plans to issue the first non-public water withdrawal permit under the new water withdrawal permitting law to TransCanada for the operation of the Ravenswood Generating Station in Long Island City, Queens. Notice of the proposed issuance of the permit appeared in DEC's Environmental Notice Bulletin ("ENB").

16. The ENB notice stated that the determinations required by ECL 15-1503(2) did not need to be made for permits to existing users and announced that permits issued to existing users were exempt from review under the State Environmental Quality Review Act (SEQRA) on the ground that Respondent DEC had no discretion in issuing such permits.

17. The Sierra Club and other environmental organizations filed comments on September 11, 2013 objecting to Respondent DEC's failure to make the determinations required by ECL 15-1503(2), its failure to set appropriate terms and conditions in the Ravenswood permit and its failure to subject the issuance of the Ravenswood permit to review under SEQRA.

18. On November 15, 2013, Respondent DEC issued a permit to TransCanada for the Ravenswood Station (the "2013 Ravenswood Permit").

19. Respondent DEC did not make the determinations required by ECL 15-1503(2), set appropriate conditions, or conduct a SEQRA review before issuing the 2013 Ravenswood Permit.

20. On December 5, 2013, Sierra Club and HRFA brought an Article 78 proceeding in Queens County Supreme Court alleging that Respondent DEC's issuance of the 2013

Ravenswood Permit violated ECL Article 15, Title 15, SEQRA, the coastal zone laws and Respondent DEC's public trust responsibilities. By agreement of the parties, the case was refiled February 18, 2019. *Sierra Club v. Martens*, Index. No. 2949/14.

21. The 2013 Ravenswood Permit was modified on March 7, 2014, to increase the maximum permitted withdrawal from 1,390,000,000 to 1,527,840,000 gallons of water per day.

22. The Queens County Supreme Court issued two decisions in favor of Respondent DEC on October 1 and 2, 2014.

B. 2018 Appeals Court Decision Invalidating 2013 Ravenswood Permit

23. Sierra Club and HRFA appealed the trial court's decisions to the Appellate Division Second Department in Brooklyn. On January 10, 2018, the Appellate Division issued its decision in *Sierra Club v. Martens*, 158 A.D.3d 169 (2nd Dep't 2018). The court invalidated the 2013 Ravenswood Permit on the ground that Respondent DEC does have discretion under ECL Article 15, Title 15 in setting the terms and conditions of water withdrawal permits issued to existing users and therefore determined that the issuance of the 2013 Ravenswood Permit was not exempt from SEQRA review.

24. The appeals court stated that whether 'the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures' will almost certainly vary from operator to operator, or from water source to water source. . . . Whether a condition is 'appropriate' for a given operator is a matter that falls within the DEC's expertise and involves the exercise of judgment, and, therefore, implicates matters of discretion." *Id.* at 177.

C. 2019 Ravenswood Water Withdrawal Permit

25. Five months before the appeals court invalidated the Ravenswood permit, on August 2, 2017, Respondent HRLLC, having purchased the Ravenswood Generating Station, submitted its application for a transfer of the permit previously issued to TransCanada.

26. On April 28, 2018, Respondent DEC notified Respondent HRLLC that "[d]ue to the outcome of recent litigation, the water withdrawal permit issued for the Ravenswood Generating Station on November 15, 2013 has been annulled and remitted back to the department for further action on the application in accordance with SEQR."

27. Respondent DEC's letter of April 28, 2018, stated that "[t]he Department is using information presented in the initial water withdrawal permit application dated May 31, 2013 as well as the information presented in the permit renewal application dated August 2, 2017 as the basis for our review. Because the facility has the capacity to withdraw 1,527.84 million gallons per day of water, the project must be considered a Type I action under the State Environmental Quality Review Act."

28. The only additional information Respondent DEC asked Respondent HRLLC to submit was a completed and signed Part 1 of a Full Environmental Assessment Form, in place of the short form EAF originally submitted, together with a letter signed by the owner or owner's representative indicating what, if any, changes to the water withdrawal system have been made since August 2, 2017.

29. On September 25, 2018, Respondent DEC accepted HRLLC's transfer application as sufficient and issued the 2018 Negative Declaration, stating that issuance of a water withdrawal permit for the Ravenswood Station "will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared."

30. Respondent DEC announced its 'tentative decision' to issue a water withdrawal permit to Respondent HRLLC on October 3, 2018, and announced that it had determined that issuance of the permit was a Type I action that would not have a significant effect on the environment and that it had issued a negative declaration.

31. Respondent DEC informed correspondents who requested a copy of the proposed permit that it planned to reissue the 2013 Ravenswood Permit.

32. On or before November 16, 2018, Petitioner Sierra Club and many Club members, among others, submitted comments objecting to Respondent DEC's plan to reissue the same permit that had been invalidated by the appeals court in *Sierra Club v. Martens* and Respondent DEC's failure to require an EIS.

33. On February 20, 2019, Respondent DEC issued the 2019 Ravenswood Permit to Respondent HRLLC.

34. The 2019 Ravenswood Permit contains ten "non-public" conditions captioned: (1) Approval of Completed Works from NYS P.E., (2) Permit Expiration and Renewal, (3) Transfer of Ownership of Water Withdrawal Systems, (4) Cooling Water Withdrawals Regulated by SPDES, (5) Incorporation of the SPDES Water Conservation and Fisheries Protection Measures Required, (6) Meter All Sources, (7) Source Meter Calibration, (8) Permittee Must Maintain Records, (9) Conduct Water Audits, and (10) Annual Water Withdrawal Reports.

35. Eight of the ten "non-public" conditions of the 2019 Ravenswood Permit are identical to the terms and conditions of the permit invalidated by the appeals court in January 2018. The two conditions added in the 2019 Ravenswood Permit are condition (8) Permittee Must Maintain Records and condition (9) Conduct Water Audits.

36. Condition 5 of the 2019 Ravenswood Permit, like condition 5 of the 2013 Ravenswood Permit, incorporates the biological monitoring conditions ("BMCs") contained in the Ravenswood SPDES permit. There are six BMCs in the Ravenswood SPDES permit. The first BMC requires "Best Available Technology" and lists various measures such as variable speed pumps, improvements to intake screens, planned outage scheduling and low stress fish return lines. The second BMC requires "Performance Standards" and states that the plant must achieve a reduction in impingement mortality of 90% for all fish species combined and 90% for winter flounder alone from the calculation baseline." The third BMC requires submission of a "Supplemental Technology and Operation Review/Plan." The fourth BMC requires a "Verification Monitoring Plan" to confirm that the performance standards are being achieved. The fifth BMC requires that data be maintained and status reports issued in 2014 and 2017. The sixth BMC provides that no changes to the cooling intake system may be made without DEC approval.

V. FIRST CAUSE OF ACTION: VIOLATION OF THE WATER SUPPLY LAW

37. Petitioners repeat and reallege the allegations in paragraphs 1 through 36 as though fully set forth herein.

38. In processing Respondent HRLLC's application for a water withdrawal permit, Respondent DEC failed to perform a number of actions required by the WSL, ECL Article 15, Title 15, and the water withdrawal permitting regulations, 6 NYCRR Part 601.

39. Respondent DEC violated the requirements of 6 NYCRR 601.10(k) when it accepted an application without requiring the necessary data and analysis in the application

materials to enable it to make the determinations required by ECL 15-1503(2) and 6 NYCRR Section 601.11(a).

40. Respondent DEC violated the requirements of 6 NYCRR 601.10(k) when it accepted a project justification section that did not show: (1) that any alternatives to the plant's existing once-through cooling system were evaluated; (2) that alternatives such as closed-cycle cooling could not reduce the size of the plant's water withdrawals; (3) why once-through cooling is reasonable given the dramatic reductions in water use that would result from closed-cycle cooling; (4) why once-through cooling is environmentally sound and economically feasible; or (5) that the plant's tremendous water withdrawals will result in no significant individual or cumulative adverse environmental impacts.

41. Respondent DEC failed to make the determinations required by ECL 15-1503(2) and 6 NYCRR Section 601.11(a). Although Respondent DEC prepared a list of the required determinations followed by yes or no answers, preparing such a listing does not constitute making the required determinations. Information necessary to making the determinations must be collected and evaluated. Making the determinations requires making reasoned determinations, and the conclusory determinations made by Respondent DEC were not reasoned.

42. Among the determinations DEC is failed to make before issuing the 2019 Ravenswood Permit are the determinations incorporating the requirements of the Great Lakes Compact, namely the determination required by ECL 15-1503(2)(g) as to whether the withdrawal "will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures," and the determination required by ECL 15-1503(2)(f) as to whether the withdrawal "will be implemented in a manner to ensure it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water

source and water dependent natural resources." Making these determinations requires the collection and evaluation of substantial amounts of information. The necessary information is not contained in HRLLC's application materials.

43. To make the determination required in ECL 15-1503(2)(g), Respondent DEC needed to evaluate the feasibility of various water conservation measures including closed-cycle cooling that were not currently in use at Ravenswood Station and it did not do so. Closed-cycle cooling is a proven technology that reduces power plant water intake by up to 98 percent, thereby reducing the damage to aquatic life by up to 98 percent, but Respondent DEC did not evaluate the benefits of requiring closed-cycle cooling at the Ravenswood Station.

44. To make the determination required in ECL 15-1503(2)(f), Respondent DEC needed to examine the cumulative impacts of all the power plants and other large water users operating in the Hudson River estuary and it did not do so.

45. The fact that Respondent DEC reissued virtually the same permit invalidated by the appeals court in 2018, a permit for which Respondent DEC conceded it had not made the determinations required by ECL 15-1503(2), is clear evidence that, whatever determinations Respondent DEC may or may not have made with respect to the issuance of the 2019 Ravenswood Permit, those determinations were not used to set appropriate terms and conditions for the 2019 Ravenswood Permit as required by ECL 15-1503(4).

46. Respondent DEC's inclusion of a condition in the 2019 Ravenswood Permit incorporating the biological monitoring requirements of Ravenswood's SPDES permit is not a substitute for making the determinations required by ECL 15-1503(2).

47. WSL and the SPDES law, ECL Article 17, have different objectives and different requirements. The standards to be applied is issuing a SPDES permit are not the same as the standards that apply under the WSL.

48. Almost every major water user in the state already has a SPDES permit. If water withdrawals could be adequately regulated under the SPDES program, the legislature would not have seen a need for a new water withdrawal permitting program imposing significant water conservation requirements that are not contained in the SPDES law.

49. For these reasons, Respondent DEC's determination to issue a permit with the same terms and conditions as the permit invalidated in *Sierra Club v. Martens* was made in violation of lawful procedures, affected by errors of fact and law, arbitrary and capricious, and an abuse of discretion.

VI. SECOND CAUSE OF ACTION: FAILURE TO COMPLY WITH SEQRA

50. Petitioners repeat and reallege the allegations in paragraphs 1 through 49 as though fully set forth herein.

51. Respondent DEC failed to comply with its responsibilities as the "lead agency" under SEQRA and the SEQRA regulations when it determined that issuance of the 2019 Ravenswood Permit "will result in no significant adverse impacts on the environment."

52. The SEQRA regulations list "a project or action that would use ground or surface water in excess of 2,000,000 gallons per day," as a category of Type I actions that, because of their size, are likely to have a significant adverse impact. 6 NYCRR 617.4(b)(6)(ii). The 2019 Ravenswood Permit authorizing the withdrawal of up to 1,527,840,000 gallons per day, involves withdrawals that are up to 764 times the Type I threshold provided in Section 617.4(b)(6)(ii).

53. The 2019 Ravenswood Permit authorizes the largest withdrawals Respondent DEC has permitted to date under the WSL.

54. In addition to being 764 times as large as a type of action included on the list of Type I actions, the Ravenswood withdrawals meet the criteria set forth in 6 NYCRR 617.7(c) for determining whether unlisted and Type I actions have a significant adverse impact on the environment. These criteria include "the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources." 6 NYCRR 617.7(c)(ii).

55. As documented in the Ravenswood Station's own impingement and entrainment studies, the plant's massive water withdrawals through its cooling water intake structures remove and destroy large quantities of fish and other aquatic life from the estuary. These massive withdrawals substantially interfere with the movement of resident and migratory fish in the estuary. Among the many species impacted, the withdrawals have substantial adverse impacts on Atlantic sturgeon, which is an endangered species. Thus it is clear that the destruction of aquatic life by the cooling water intake structures of the Ravenswood plant has a significant adverse impact on the East River, the New York Harbor Estuary, the Hudson River, Long Island Sound and the New York Bight.

56. The 2018 Negative Declaration states that "[t]he current water withdrawal regime [at the Ravenswood Generating Station] was established by a Department initiated modification to the Facilities SPDES permit in 2006. As part of that review process the Department issued a Negative Declaration of Significance."

57. This statement ignores the fact that the state legislature enacted WRPA in 2011 to comply with the Great Lakes Compact and establish new, more stringent standards for water withdrawals in New York to better protect New York's water resources. The requirements of ECL Article 15, Title 15, as amended by WRPA, do not mirror the requirements of the State SPDES Law, ECL Article 17, but establish new, more stringent standards for compliance. For example, the SPDES law and regulations do not require the implementation of water conservation measures or mandate the consideration of cumulative impacts required by ECL Article 15, Title 15.

58. The 2018 Negative Declaration states that "the facility employs a fish-friendly return system to increase the survivability of fish that become impinged on the intake screen," but does not explain why the plant's system is "fish-friendly." The Negative Declaration also states that the plant's "current SPDES permit also required the installation of variable speed pumps on each unit. Variable speed pumps allow for the reduction in cooling water used during reduced power demand and colder source water conditions. In addition, the traveling screens on all the units were required to be upgraded." These statements are identical to statements contained in the negative declaration issued for the renewal of the plant's SPDES permit on December 11, 2006. The 2018 Negative Declaration repeats the assertion in the 2006 negative declaration for the SPDES permit that "[a]ll of the above measures [i.e. the variable speed pumps and the screen upgrades] will result in the reduction of impingement mortality by 90% and entrainment mortality by 65% over baseline conditions," and states that "these reductions will result in positive environmental benefits to the aquatic resources of the East River."

59. The 2018 Negative Declaration does not evaluate whether the projected reductions in fish impingement and entrainment have been achieved. The results of the

verification monitoring that has been conducted at Ravenswood Station since the installation of the equipment required in 2006 are not described in the 2018 Negative Declaration.

60. The 2018 Negative Declaration does not offer any data on what the plant's actual fish entrainment and impingement amounts are estimated to be or consider alternative technologies that might further minimize fish entrainment and impingement such as closed cycle cooling.

61. Nor does the 2018 Negative Declaration consider the cumulative impacts of the Ravenswood cooling water intake system and the other water withdrawals from the estuary.

62. In these circumstances, it is clear that Respondent DEC did not identify the relevant areas of environmental concern, take a "hard look" at them or make a "reasoned elaboration" of the basis for the 2018 Negative Declaration as required by 6 NYCRR 617.7(b) of the SEQRA regulations and the many court decisions interpreting the "hard look" standard.

63. For these reasons, Respondent DEC's issuance of the 2018 Negative Declaration was made in violation of lawful procedures, affected by errors of fact and law, arbitrary and capricious, and an abuse of discretion.

VII. RELIEF REQUESTED

WHEREFORE, Petitioners respectfully request that the Court enter an Order in this proceeding:

(1) Annulling the 2019 Ravenswood Permit;

(2) Annulling Respondent DEC's Negative Declaration;

(3) Allowing costs and disbursements; and

(4) Granting such other and further relief as the Court may deem just, proper and equitable.

DATED: New York, New York
April 18, 2019

Respectfully submitted,

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New York, NY 10004
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Attorneys for Petitioners

VERIFICATION

I, Jonathan Geballe, an attorney admitted to the practice of law before the courts of the State of New York, and not a party to the above-captioned proceeding, affirm the following to be true under the penalties of perjury pursuant to CPLR 2106, that I am an attorney for the Petitioners in this proceeding and that the foregoing petition is true to my own knowledge, and upon my review of the pertinent documents.

I am signing this verification pursuant to Rule 3020(d)(3) of the CPLR because all the material allegations of the petition are within my personal knowledge.

Dated: April 18, 2019
New York, New York

JONATHAN GEBALLE
11 Broadway, Suite 615
New York, NY 10004
Telephone: (212)732-0800
Email: jg@jonathangeballe.com

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS
----------x
In the Matter of the Application of

SIERRA CLUB, and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER, INC.,

Petitioners,

For Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

-against-

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER OF THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, and HELIX-RAVENSWOOD LLC,

Respondents.
----------x

Index No. 2402/2019

Hon. Ulysses B. Leverett

ADMINISTRATIVE RECORD

LETITIA JAMES
Attorney General of the
State of New York
Attorney for Respondent
28 Liberty Street, 19th Floor
New York, NY 10005
(212) 416-8469
GAVIN G. McCABE
Assistant Attorney General
Of Counsel

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Email from Couch White to the New York State Department of Environmental Conservation ("DEC") Regarding Change in Controlling Interest in Ravenswood, dated August 2, 2017	250-251
Letter from Couch White to DEC with Materials Regarding Change in Controlling Interest in Ravenswood, dated August 2, 2017	252-327
DEC Notice of Receipt of Application, dated August 3, 2017	328
Email from DEC to Ravenswood attaching Notice of Receipt of Application, dated August 31, 2017	329-330
DEC Letter Notifying Ravenswood of Modification of Water Withdrawal Permit with signed permit, dated September 29, 2017	331-335
Letter from DEC to Ravenswood Regarding Annulled Water Withdrawal Permit Due to Recent Litigation, dated April 13, 2018	336-337
Email from Ravenswood to DEC Accompanying Completed Part 1 of a Full Environmental Assessment Form, dated May 4, 2018	338-339
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Email Exchange between DEC and New York City Regarding Coastal Assessment Form ("CAF"), dated August 2018	358-359
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Completed Part 3 of Full Environmental Assessment Form Accompanying October 4, 2018 Email from DEC to Rachel Treichler, dated September 25, 2018	399-400
Email exchange between DEC and Rachel Treichler, dated October 4, 2018	401-402
Letter from Karen Biesanz to DEC Requesting 90-Day Extension of Comment Period on 2019 Permit, dated October 4, 2018	403-404
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Letter from Mary Finneran to Governor Andrew Cuomo Opposing 2019 Permit, dated November 17, 2018	496-499
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RECERTIFICATION PURSUANT TO CPLR § 7804(e)

I, Anthony London, a Senior Attorney in the Office of General Counsel of the New York State Department of Environmental Conservation, do hereby certify, pursuant to CPLR § 7804(e), that, to the best of my knowledge, information and belief, the documents identified in the foregoing table of contents and attached hereafter, constitute the record of the proceedings under consideration. This recertification reflects an update to the certification originally dated June 18, 2019. Due to a technological issue associated with the reformatting of a pdf document by the Office of Attorney General, information recorded on the native version of the form dropped out, making the form appear blank. That form appeared in the June 18, 2019 version of the record at pages 382-391 and 518-527. As explained in the Affirmation of Lawrence Weintraub, the New York State Department of Environmental Conservation did in fact complete that form. The correct version of the form was provided to Counsel for petitioners on or about August 9, 2019. The blank versions of the form have now been removed and replaced by the correct versions, which appear in this updated, recertified record at pages 382-391 and 518-527.

Dated: Albany, NY
August 19, 2019

Anthony London

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ADMINISTRATIVE RECORD FROM PROCEEDING FOR RAVENSWOOD 2014 WATER WITHDRAWAL PERMIT, DATED MARCH 13, 2014 [A-40 - A-43]

SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF QUEENS
----------x
In the Matter of the Application of

SIERRA CLUB, and HUDSON RIVER FISHERMEN'S ASSOCIATION, NEW JERSEY CHAPTER, INC.,

Index No. 002949/2014

Hon. Robert J. McDonald

Petitioners,

For Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

-against-

JOSEPH MARTENS, COMMISSIONER, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION,

Respondent,

TRANS CANADA RAVENSWOOD LLC,

Necessary Party.
----------x

ADMINISTRATIVE RECORD

ERIC T. SCHNEIDERMAN
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State of New York
Attorney for Respondent
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(212) 416-6091

LAURA HESLIN
Assistant Attorney General
Of Counsel

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CERTIFICATION PURSUANT TO CPLR § 7804(e)

I, Kent Sanders, the Deputy Chief Permit Administrator of the Division of Environmental Permits of the New York State Department of Environmental Conservation, do hereby certify, pursuant to CPLR § 7804(e), that, to the best of my knowledge, information and belief, the foregoing documents constitute the record of the proceedings under consideration.

Dated: Albany, NY
March 13, 2014

Kent Sanders

Sworn to before me this
13 day of March, 2014

Notary Public

LAWRENCE WEINTRAUB
Notary Public, State of New York
No. 02WE6149806
Qualified in Schenectady County
Commission Expires July 17, 2014

RAVENSWOOD GENERATING STATION INITIAL WATER WITHDRAWAL PERMIT ("INITIAL PERMIT") APPLICATION, DATED MAY 31, 2013 [A-44 - A-78]

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

May 2013

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME TC Ravenswood LLC

2. FACILITY NAME Ravenswood Generating Station

3. PROJECT TYPE
☑ Water Withdrawal ☐ New Public Water Supply Service Area or Extension
☐ Land Acquisition for Public Water Supply ☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE
☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☐ Cooling ☐ Industrial
☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☑ Power Production ☐ Recreational
☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New If this is an existing public water supply, provide the most recent WSA or WWA Number:
If other than public water supply, list other existing or pending related DEC permits (e.g., SPDES, Mining, Dam):
SPDES NY 0005193

6. WATER WITHDRAWAL SOURCE ☑ Surface Water Water Body Name(s) East River
☐ Groundwater Nearest Surface Water Body Distance From Well (in feet)

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 1,534,752,000 gallons per day Source Name East River
Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes
If yes, ☐ Existing ☐ New From Basin To Basin

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	Not Applicable	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	Not Applicable
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	See Figure # 1	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	Not Applicable
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	See Figure #'s 1 & 2	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	Not Applicable
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	Not Applicable	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	See Section (K)
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	See Appendix A	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	Not Applicable
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	See Appendix B	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	See Section M
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	See Appendix C	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	Not applicable

Clear Form

Applicant Signature

Name Kenneth Yager Date 5/31/2013

Title Compliance Manager

A.R. 1

NYCRR Part 601
Water Withdrawal Permit Application
601.10 Requirements

(a) Project Authorization
The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. The current facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. The water withdrawal system is not a public supply system and is not applicable to the requirements set forth in subpart (a).

(b) General Map
See Drawing # 1-Ravenswood Generating Station General Map.

(c) Watershed Maps
See Drawing # 2- Watershed maps

(d) Contract Plans
No contract plans exist for the water withdrawal system. The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility.

(e) Engineer's Report
See Appendix A- Engineer's Report

(f) Water Conservation Program
See Appendix B-Water Conservation Form

(g) Annual Water Withdrawal Report
See Appendix C- 2012 Water Withdrawal Report

(h) Acquisition Maps
The water withdrawal system is an existing system that was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. Land acquisition maps are not required for the existing water withdrawal system.

(i) Water Analyses
The water withdrawal system is not a public supply system and chemical and bacteriological analyses are not performed. Therefore, Ravenswood is not applicable to the requirements set forth in subpart (i).

(j) Treatment Methods

The water withdrawal system is not a public supply system required to meet Department of Health standards and is therefore not applicable to the requirements set forth in subpart (j).

(k) Project Justification

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for Units 10, 20 & 30 is currently withdrawn from the East River through intake structures and is routed through steam surface condensers.. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed to back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River The siting of the electric generating facility along the East River is ideal due to the plentiful surface water supply for once through cooling. The East River's mean tidal flow is about 240,000 cubic feet per second (1.79 million gallons per second) allowing for Ravenswood to adequately and reasonably withdraw and return the necessary water for cooling.

The installation of variable frequency drives (VFD) on the circulating water pumps (CWP) has allowed for vast conservation improvements and an overall reduction in water withdrawn from the East River. The installation of VFDs has reduced electricity consumed by the CWP while in VFD operation due to the slower motor speeds. More importantly, the installation of VFDs has led to a considerable overall reduction in the volume of surface water withdrawn from the East River. The upgrades performed on the CWPS have directly made the water withdrawal system an environmentally sound and economically feasible project. In addition to the conservation of water withdrawn from the East River, the VFDs installed on the CWPs have also helped reduce the overall adverse environmentally impact associated with the impingement and entrainment of marine organisms. The volume of water withdrawn is directly proportional to the number of organisms impinged and entrained. A flow reduction achieved by the use of variable speed pumps has a proportional reduction to impinged and entrained organisms. The installation and implementation of VFDs is projected to reduce impingement mortality and entrainment of organisms by 90% and 65% from baseline, respectively. The current water withdrawal system utilized at Ravenswood complies with the various federal, state, and local laws.

(l) Canal Withdrawal Approval

The water withdrawal system is not located on a canal and is therefore not applicable to the requirements set forth in subpart (l).

(m)Transmittal Letter

(1)

Applicant:
TC Ravenswood LLC
Kenneth Yager
38-54 Vernon Blvd.
Long Island City, NY 11101

Engineer:
Erwin Schaub, P.E.
38-54 Vernon Blvd.
Long Island City, NY 11101

(2) If required, a public venue will be determined at the appropriate time.

(3) Publications in local newspapers for facility permits are published in the 'Daily News'.

(n) Great Lakes-St. Lawrence River Basin
The water withdrawal system is not located within the Great Lakes or St. Lawrence River basin and is therefore not applicable to the requirements set forth in subpart (n).

Appendix A

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

Professional Engineer's Certification

Name: Erwin Schaub
Firm: TC Ravenswood LLC
Address: 38-54 Vernon Blvd
Long Island City, New York 11101

Signature: _____

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

1. General description of the project and the engineering features of the existing water withdrawal system.

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for units 10, 20, and 30 is withdrawn from the East River through intake structures and is routed through steam surface condensers. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River. Unit 40 and the simple cycle gas turbines do not utilize a once through cooling water system.

Condenser cooling water and service water for units 10, 20 and 30 is drawn into a protected embayment and intake structure. Units 10 and 20 each have four water intakes bays; two bays provide water to each circulator. Unit 30 has six intake bays; three bays provide water to each circulator. Wooden debris skimmers (ice breakers) are located at the entrance to each intake bay to prevent floating material from entering the bays. The continuous traveling water screens (3/8 inch square mesh) are equipped with high pressure (screen wash) spray systems to wash off impinged fish, crabs, and debris from the riverside of the screen. The wash water and impinged material is then diverted back to the East River though low stress fish return piping.

Each of the three units is equipped with two motor driven circulating water pumps. At Units 10 and 20; each pump has a rated capacity of 107,000 gallons per minute (GPM). Unit 30 pumps are rated at 268,500 GPM. Each motor has been retrofitted with variable frequency drives (VFD). A VFD is a device that rectifies 60 cycle AC current to direct current. Then using insulated gate bipolar transistors (IGBT's), converts the DC supply to a square wave alternating supply at adjustable frequency. This causes the motor to operate at variable speeds. The VFD allows the facility to decrease the circulating water pump motor speed and consequently proportionately decrease the circulating water flow. Operation at less than full flow capacity directly relates to conservation.

A service water system (Low Pressure Salt Water Pumps) also provides water from the East River for cooling small equipment throughout the facility and

E.S.

turbine-generator cooling. Units 10 and 20 each have a Low Pressure Salt Water Pump with a shared spare and unit 30 has three Low Pressure Salt Water Pumps.

2. **A listing of all existing sources of water supply, including wells, surface withdrawals, and any purchases sales or transfer of water.**

Existing Source	Water Supply
11 Circulating Water Pump	Surface-East River
12 Circulating Water Pump	Surface-East River
21 Circulating Water Pump	Surface-East River
22 Circulating Water Pump	Surface-East River
31 Circulating Water Pump	Surface-East River
32 Circulating Water Pump	Surface-East River
11 Low Pressure Salt Water Pump	Surface-East River
21 Low Pressure Salt Water Pump	Surface-East River
1-2 Low Pressure Salt Water Pump	Surface-East River
31 Low Pressure Salt Water Pump	Surface-East River
32 Low Pressure Salt Water Pump	Surface-East River
33 Low Pressure Salt Water Pump	Surface-East River
Unit 10, 20, & 30 Screen Wash Pumps (5)	Surface-East River
Water Meter House 1, 2, 3 & 4	Purchase - NYCDEP

3. **Evaluation of a practicable alternative to the proposed source shall include an analysis of increased water conservation measures as a means to reduce or eliminate the need for the proposed source.**

Cooling water is a critical component to the production of electricity at the station. Total elimination of cooling water is not a practical alternative. However, conservation methods are a viable option that has been implemented at the facility in order to reduce cooling water withdrawn from the East River. Circulating Water Pumps (CWP) have been retrofitted with VFDs to allow for reduced surface water withdrawal at reduced generation loading and reduced cooling water temperatures. An analysis of the first ten months of cooling water withdrawal from the East River was performed on the CWPs with VFD operation. The average hourly CWP GPM was calculated by utilizing continuously recorded motor speeds. The hourly CWP GPM was then compared to average CWP GPM if VFDs had not been installed (full flow operation). The difference between the two averages was then used to determine the water conservation directly related to the retrofit of the CWP on a daily basis for all units. Monthly averages are shown below. The overall reduction in surface water withdrawn from the East River is significantly reduced with the use of VFD operation of the CWPs. The conservation methods utilized at Ravenswood have directly led to substantial conservation of surface water and have been adequately implemented.

	Unit 10			Unit 20			Unit 30			
	Unit 10 CWP AVG. GPM with VFD Operation	Unit 10 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 20 CWP AVG. GPM with VFD Operation	Unit 20 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 30 CWP AVG. GPM with VFD Operation	Unit 30 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	AVG. Water Withdrawal Conservation All Units (GPD)
July 2012	151,030	179,484	40,973,475	157,429	189,839	46,670,534	338,158	450,387	161,609,894	249,253,904
August 2012	155,883	202,536	38,956,157	167,411	189,839	32,295,838	165,404	225,194	86,096,285	157,348,281
Sept 2012	121,097	168,290	27,961,262	158,758	175,253	23,753,039	22,658	24,587	2,777,300	54,491,601
October 2012	168,933	193,290	35,074,172	52,196	65,581	19,274,255	364,899	537,000	247,826,058	302,174,485
November 2012	103,902	189,072	8,469,802	131,006	160,890	43,032,785	325,356	389,758	92,738,741	144,241,328
December 2012	214,000	214,000	0	43,808	55,226	16,441,232	0	0	0	16,441,232
January 2013	107,490	214,000	34,087,195	86,162	177,103	114,502,914	0	0	0	148,590,109
February 2013	24,563	34,516	10,485,108	2,779	5,713	3,693,642	77,542	138,581	87,895,382	102,074,132
March 2013	0	0	0	123,081	186,387	91,160,256	0	0	0	91,160,256
April 2013	9,107	20,710	17,264,262	95,504	192,400	139,530,196	0	0	0	156,237,546

4. **For public water supply systems, the present and projected population of the water service area and the present and projected consumption rate.**

   Not applicable to Ravenswood Generating Station.

5. **For public water supply systems, the radius of land owned or controlled for wellhead protection surrounding any proposed groundwater withdrawal, or the water quality classification and a copy of any Department of Health Watershed Rules and Regulations for any proposed surface withdrawal.**

   Not applicable to Ravenswood Generating Station.

6. **The general-character and extent and essential design features of proposed controlling, diverting or regulatory works.**

   Implementation of site specific procedures on the operation of the CWPs has been employed at the site. Personnel are trained in the operation of the equipment and are instructed on CWP speeds for maximum conservation of water withdrawal.

7. **The proposed instantaneous and maximum daily rates of withdrawal; the existing and projected daily average, daily maximum, and 30 day maximum water demands of the withdrawal system;**

E.S.

2012 Maximum daily withdrawal rate	1,534.75 MGD
2012 Existing Daily Average	486.49 MGD
Projected Daily Average	486.49 MGD
Daily Maximum	1,489.70 MGD
2012 30 Day Maximum Demand	27,933.85 MG30DAY

8. **When applicable, any fire suppression flows which can be supplied, including the duration for which such flows can be maintained.**

   Water for fire suppression is fed from the city water supply (NYC DEP). The city water system supplies the suction to fire pumps which discharge to various fire protection systems located at the facility.

Fire Protection System	Flow
Dock Foam Fire Suppression System	3,000 GPM
GT Foam Fire Suppression System	1,000 GPM
Unit 40 Fire Suppression system	3,000 GPM
10, 20 & 30 Standpipe Booster Pump	750 GPM
06 Tank Foam Fire Suppression System	500 GPM
Rainey Foam Fire Suppression System	1,000 GPM
10/20 Transformer Fire Suppression System	750 GPM

9. **For public water supply systems, the location, extent and character of proposed treatment.**

   Not applicable to Ravenswood Generating Station.

10. **For groundwater sources, well drinking logs, monitoring well locations and pump test data and analyses of results.**

    Not applicable to Ravenswood Generating Station.

11. **For surface water sources, information on rainfall, stream flows and classifications, contributing watershed size, location of nearby USGS stream gauges, other upstream water withdrawals, safe yield analysis or passby flow calculations and proposed withdrawal methods including intake structure design and screening.**

    The Hudson-Raritan Estuary System is a coastal plain estuary dominated by the drowned river valley of the Hudson River estuary. The estuary system extends 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The freshwater tributary to the estuary system drains a total of about 16,300 square miles. Seasonal and inter-annual variation of stream flow of the Hudson River recorded at Green Island, New York, near Troy (USGS gage 0 1358000) is characterized by high flow during March through May, with monthly mean peak flow of 32,719 cubic

feet per second (CFS). The mean oscillating tidal flow in the East River reaches about 240,000 CFS. The estuary system is comprised of all tidally inundated areas within these drainage basins including tidal straights; Harlem and East Rivers. The East River extends 16 miles from the battery to Throgs Neck and Willets Point at the Long Island Sound. The tidal straight is divided into distinct hydrological sections. The East River is narrow and bulk-headed along most of the length, and is divided into east and west channels where it passes Roosevelt Island. The station is located on the east channel from which the station withdraws its cooling water. Maximum river velocities are high, reaching 5.0 ft/sec. The station utilizes a once through cooling water system. The intake structures are recessed 60 feet inside the bulkhead line. Units 10 and 20 each have four water intake bays that measure 11.2 feet wide and by 17 feet deep at mean low water (MLW). Unit 30 has six intake bays that each measure 11.2 feet wide by 24 feet deep (MLW). The existing technology includes 14 vertical continuous traveling screens outfitted with 3/8 inch square mesh and high pressure wash to remove impinged material.

E.S.

Appendix B

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER SUPPLIES

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
***SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM**

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of supply will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Ravenswood Generating Station		**DEC No.**	
Street Address: 38-54 Vernon Blvd		**WWA No.**	
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Contact Name: Kenneth Yager			
Street Address: 38-54 Vernon Blvd			
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Applicant's Telephone: 7,187,062,702		**Contact's Telephone:** 7,187,062,702	

II. SOURCES OF WATER SUPPLY

[State capacity and withdrawal in gallons per minute (**gpm**), gallons per day (**gpd**), or million gallons per day (**mgd**).]

Source Type: S = Surface supply, G = Ground supply, P = Purchased supply
Source Status: R = Regular use, S = Standby use, E = Emergency use, I = Inactive, D = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
East River	S	R	1,534.75 MGD	486.49 MGD	1963
NYCDEP	P	R		0.455 MGD	

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters?	No
How often are they read? Service water meters are read monthly.	
How often are they calibrated? Meters are not calibrated at this time	
Are there secondary meters located within the facility or system? Yes	If yes, how many? 15
Describe secondary metering system if applicable: All incoming city water is metered by a NYC DEP service water meter. Inside the plant various secondary water meters are installed to determine water usage throughout the site. Surface water is withdrawn from the East River and flow rate is determined by pump speed.	

Water Production for Calendar Year		
Total metered water production:	177,570,461,410	gallons per year
Average day production (total/days of use):	486,494,415	gallons per day
Maximum day production (largest single day):	1,489,700,000	gallons per day

What are your future goals and schedule for water metering?
City water connections from the NYC DEP water system are currently metered to determine the total water purchased. Multiple water meters are installed throughout the facility and are read monthly to determine water usage at different parts of the steam-electric generation process. Currently, primary and secondary water meters are being reviewed to determine the best practice for calibration of these meters.

Best Management Practices:

** 100% metering of all sources of water supply.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

**** Water Audit for Calendar Year**

Total metered water production (from previous section)			Total	177,570,461,410	
Sources of Water Use		**Metered or Estimated?**			**% of Total**
Process Water		Metered	subtract	166,347,970	0.09
Cooling Water		Estimated	subtract	176,711,185,540	99.52
Wash Water			subtract		
Sanitary			subtract		
Incorporation into Product			subtract		
Irrigation			subtract		
Other	HP wash water for screens	Estimated	subtract	692,928,000	0.39
Other			subtract		
TOTAL UNACCOUNTED-FOR WATER			Sub-total	0	0
Unaccounted-for water breakdown	Meter under-registration		subtract	0	0
	Unrepaired leakage		subtract	0	
	Other:		subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html				0	

What are your future goals for water system auditing?
Continuation of monthly water meter readings by Performance Engineering Group. Water meter readings and site water usage is analyzed and compared to historical data.

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? No
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? No

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired

What are your future goals for water system leak detection and repair?
The site is continuously manned with personnel and water usage data is analyzed monthly. If a leak is detected in underground piping the leak is addressed as soon as possible.

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:

Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:

Describe any equipment or processes that promote the efficient use of water by your facility:
Variable Frequency Drives (VFD) are installed on the Circulating Water Pumps (CWP). The CWPs withdraw surface water from the East River for cooling. VFDs allow for the pumps to operate at less than full speed operation at reduced loads and cooler water temperatures. The reduced speed directly correlates to reduced water withdrawal.

Does your system include storage tanks or ponds to meet short term water demands?
Yes, demineralized water storage tanks are used.

Describe any actions that can be taken to reduce water use during times of drought:
VFD operation of the CWP in order to reduce surface water withdrawal.

What are your future goals for recycling or reducing water usage?
Continuing use of CWPs in VFD to reduce surface water withdrawal at reduced loads.

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Ravenswood Generating Station	WWA No.

Signature:	Signatory:
Title: Compliance Manager	Date: 5/31/2013

DISCUSSION:

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

Appendix C

New York State Department of Environmental Conservation

Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by March 31 each year

Prior to filling out this form please read the instructions on last page

(This form not for Agricultural Facilities)

Section 1

Reporting Year: 2012

Facility Name: Ravenswood Generating Station | Facility Street Address: 38-54 Vernon Boulevard

City: Long Island City | Zip: 11101 | Town: | County: Queens

Contact Name: Gregory Pryor | Email: gregory_pryor@transcanada.com | Telephone: (718) 706-2863

Source Name	Source Type	Well Depth	Ft	Max Rate	Units
East River	S			1,514.5	MGD
NYC DEP	P				GPM

If an interbasin diversion occurs, check this box ☐ and enter information in Section 3

Average Day Withdrawal: 486 MGD | Maximum Day Withdrawal: 1,489.7 MGD | Permitted Withdrawal: MGD

Submitted by: Gregory Pryor | Title: Environmental Specialist | Date: 1/11/2013

Water Withdrawal Category (check one)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☐ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production

Power Production:

- ☒ Fossil Fuel
- ☐ Nuclear
- ☐ Other Pwr:
- ☐ Public Water Supply

Recreation:

- ☐ Golf Course
- ☐ Snow Making
- ☐ Other Rec:
- ☐ Other:

Reset Form | Print Form | Submit by Email

If you do not receive a confirmation email, please contact AWQRSDEC@gw.dec.state.ny.us or 518 402-8086.

A.R. 20

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AR-0000024

Section 2

Calculation Method: P

M = Metered readings. W = Flow through a weir or flume. P = Flow through a pipe or pump run time. E = Estimated.

UNITS: *Must be in gallons per month*	January	February	March	April	May	June
Withdrawn	4,180,896,000	2,783,808,000	11,009,952,000	8,614,800,000	10,453,248,000	14,111,136,720
Transferred / Imported	9,552,777	8,833,832	10,944,208	14,300,667	11,448,093	15,332,994
Consumed	8,160,434	7,446,808	8,048,021	12,381,599	9,174,934	13,485,679
Returned	4,165,584,343	2,778,859,024	10,952,368,187	8,580,431,068	10,412,897,159	14,065,752,035
Diversions In / Out if any	0	0	0	0	0	0

	July	August	September	October	November	December
Withdrawn	29,130,912,720	21,968,064,000	13,070,304,000	26,265,312,000	24,259,392,000	11,556,288,000
Transferred / Imported	19,580,467	15,648,019	10,588,747	18,948,492	19,466,268	11,703,408
Consumed	16,929,661	13,191,527	8,628,313	15,356,435	16,572,638	10,114,834
Returned	29,034,466,581	21,891,608,492	13,027,912,434	26,176,744,057	24,183,433,630	11,516,980,574
Diversions In / Out if any	0	0	0	0	0	0
Describe location of returned water	Water is returned to the East River via SPDES outfalls 001, 008, 009, and 010. These points are annotated as discharges 1-4 respectively on the attached map.					

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Section 3

General Map Required

Please submit a map showing location of all withdrawals and any points of return flow. Label all points. **A map is not necessary if one was submitted in a previous year and no changes have occurred.** Precise locations will remain confidential.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. For electronic maps a suggested website is described below:

(1) Go to the USGS National Map site [http://usgs01.srv.mst.edu/store3/digital_download/mapping_ap.jsp].
Type the address of the agricultural facility into the search box.
(2) Zoom in and use any of the map-type choices to best confirm your location.
(3) Designate water withdrawal locations by clicking on the map to add a marker(s).
(4) For surface water withdrawals, use the "Topo" tab.
(5) Add a marker to designate the location of any related dams, weirs, or diversion structures.
(6) Print. Manually label the name of each marked source.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290.
- Print, scan and email to awqrsdec@gw.dec.state.ny.us.
- Copy electronically and email to awqrsdec@gw.dec.state.ny.us.

NOTE: Precise locations will be kept confidential.

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, click the link below, highlighted in blue. Enter basin ID where requested. Use drop down menu. Describe location of originating and receiving sites (e.g. Town water intake at north end of Pleasant Lake to southwestern corner of Stony Reservoir near Route 12).

Originating Major Drainage Basin http://www.dec.ny.gov/lands/56800.html	Receiving Major Drainage Basin http://www.dec.ny.gov/lands/56800.html
Enter Basin ID here:	Enter Basin ID here:
Originating Site Description:	Receiving Site Description:

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Section 4

Water Conservation and Efficiencies

All permitted water withdrawal systems must have a Water Conservation Program.

Section A: For Permitted Public Water Supply Facilities Only - All others use Section B

Are all sources of supply including major interconnections equipped with master meters? ☐Yes ☐No

What percentage of your system is metered? ____ %. Residential charge per 1000 gallons of water: $____

How often were customer meters read this past year (e.g. quarterly, yearly)? ____

Number of water service connections: ____ Total population served: ____

How many customer meters were recalibrated and/or replaced in the past year? ____

Miles of pipe in water distribution system: ____ Length of pipe replaced in the past year: ____ ____

Miles of pipe on which leak detection was performed using sonic listening equipment: ____ Type of equipment used: ____

How many system-wide water audits were performed in the past year? ____

What percentage of the water withdrawn was not billed to customers? ____ %. Lost to distribution system leakage? ____ %

Was information about household water saving devices and ways to reduce water use distributed to residential customers? ☐Yes ☐No

Was water conservation information about promoting recycling and reuse distributed to industrial and commercial customers? ☐Yes ☐No

Do you have lawn sprinkling time restrictions (e.g. odd/even days) during periods of peak demand? ☐Yes ☐No

Do you have a plan that takes progressive steps to further reduce outdoor water use during drought conditions with an ordinance or procedure to assure compliance? ☐Yes ☐No

Please review your permit(s) for any specific water conservation conditions and report below on progress made in past year.

Section B: Water Withdrawal Reporting and Registered Facilities (see permitting schedule in **NYCRR Part 601.7**)

Are all sources of supply including major interconnections equipped with master meters? ☐Yes ☒No

How often were master meters read in the past year? Monthly

How often were master meters calibrated in the past year? 0

Are there secondary meters located within the facility or system? ☒Yes ☐No

Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station has conducted major capital upgrades on the circulating water system in order to retrofit circulating water pumps with variable speed drives and vacuum priming systems to allow for variable speed operation. The variable speed operation allows for reductions in water use during periods of reduced load, cool weather conditions, or when full circulating water flow is not required. The circulating water pumps take suction off the East River and provide once through cooling water for the condensers.

Section 5	Instructions / Definitions
Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled. "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased. Use drop down menu.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn (e.g., for a public water supply 365 million gallons/365 days = 1 mgd).
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Permitted Rate	If unknown, contact NYSDEC at AWQRSDEC@gw.dec.state.ny.us or 518-402-8182.
Calculation Method	M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. E = estimated.
Withdrawn	Amount of water removed from all sources.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers.
Returned	Amount of water discharged to a water treatment system or discharged back to the environment.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form (labeled "Click Here To Determine Basin ID") and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

Appendix D

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water withdrawal.

New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/Threatened Species

☑ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☐ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☐ Nationwide Permit(s) - Identify Number(s): _____

Preconstruction Notification - ☐ Y / ☐ N

☐ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
  - ☐ Utility Easement (pipelines, conduits, cables, etc.)
  - ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)

TC Ravenswood LLC

Mailing Address: 38-54 Vernon Blvd.

Post Office City: Long Island City

State: NY Zip Code: 11101

Telephone (daytime): 718.706.2702

Email: Kenneth_Yager@transcanada.com

Applicant must be:

- ☑ Owner
- ☐ Operator
- ☐ Lessee

(check all that apply)

Taxpayer ID (If applicant is NOT an individual): 11-3484082

6. Name of Facility or Property Owner (if different than Applicant)

Mailing Address:

Post Office City:

State: Zip Code:

Telephone (daytime): Email:

7. Contact/Agent Name

Kenneth Yager

Company Name: TC Ravenswood LLC

Mailing Address: 38-54 Vernon Blvd

Post Office City: Long Island City

State: NY Zip Code: 11101

Telephone (daytime): 718.706.2863

Email: Kenneth_Yager@transcanada.com

8. Project / Facility Name

Ravenswood Generating Station

Property Tax Map Section / Block / Lot Number: Block 357 Lot 1

Project Location - Provide directions and distances to roads, bridges and bodies of waters:

Ravenswood cooling water intakes located on the shoreline of the East River. North of the Queensboro Bridge and South of the Roosevelt Island Bridge.

Street Address, if applicable: 38-54 Vernon Blvd.

Post Office City: Long Island City State: NY Zip Code: 11101

Town / Village / City: Long Island City

County: Queens

Name of USGS Quadrangle Map: Central Park

Stream/Water Body Name: East River

Location Coordinates: Enter NYTMs in kilometers, **OR** Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude
		40 45' 41"	73 56' 39"

For Agency Use Only DEC Application Number: USACE Number:

JOINT APPLICATION FORM - PAGE 2 OF 2

Submit this completed page as part of your Application.

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

The Ravenswood Power Station has three electric generating units that utilize once through cooling water intake structure. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condensor to condense exausted steam from the low pressure turbine. Water withdrawn is then return to the East River via SPDES permit NY 0005193. No modifications or maintenance to the water withdrawal system is proposed.

Proposed Use: ☐ Private ☐ Public ☑ Commercial	Proposed Start Date:	Estimated Completion Date:

Has Work Begun on Project? ☑ Yes ☐ No If Yes, explain.

The Ravenswood Generating station has been in operation since 1963.

Will Project Occupy Federal, State or Municipal Land? ☐ Yes ☑ No If Yes, please specify.

10. List Previous Permit / Application Numbers (if any) and Dates:

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☑ Yes ☐ No If yes, please list:

NYCRR Part 601 Water Withdrawal Permit

12. **Signatures.** If applicant is not the owner, both must sign the application.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

	Printed Name	Title	Date
Signature of Applicant	Kenneth A Yager	Compliance Mgr.	5/31/2013
Signature of Owner			
Signature of Agent			

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Project Number _____

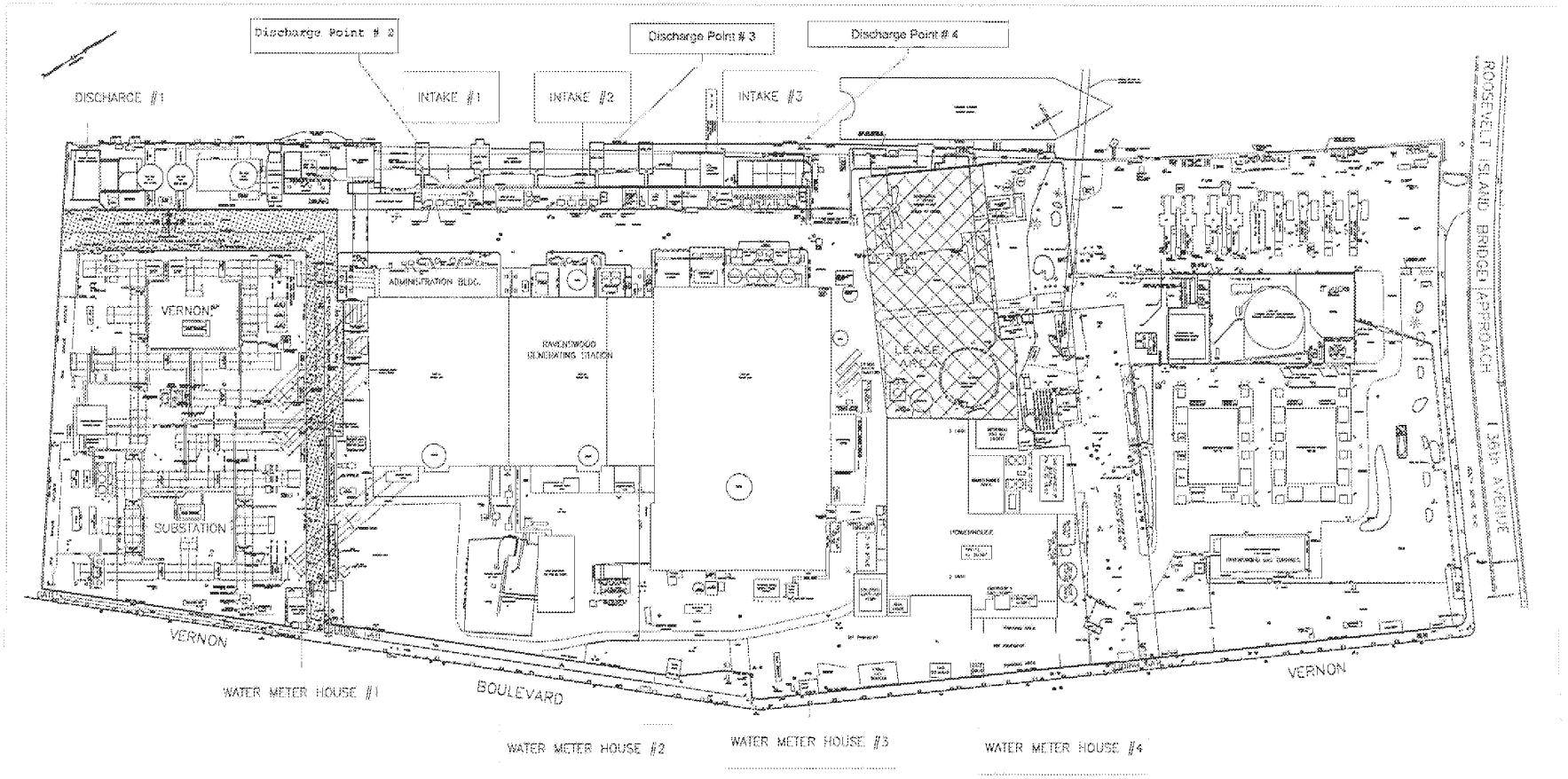
_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative: Name (printed) _____ Title _____

Signature _____ Date _____

Figure 1

Ravenswood Generating Station
General Map 601.10(b)



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

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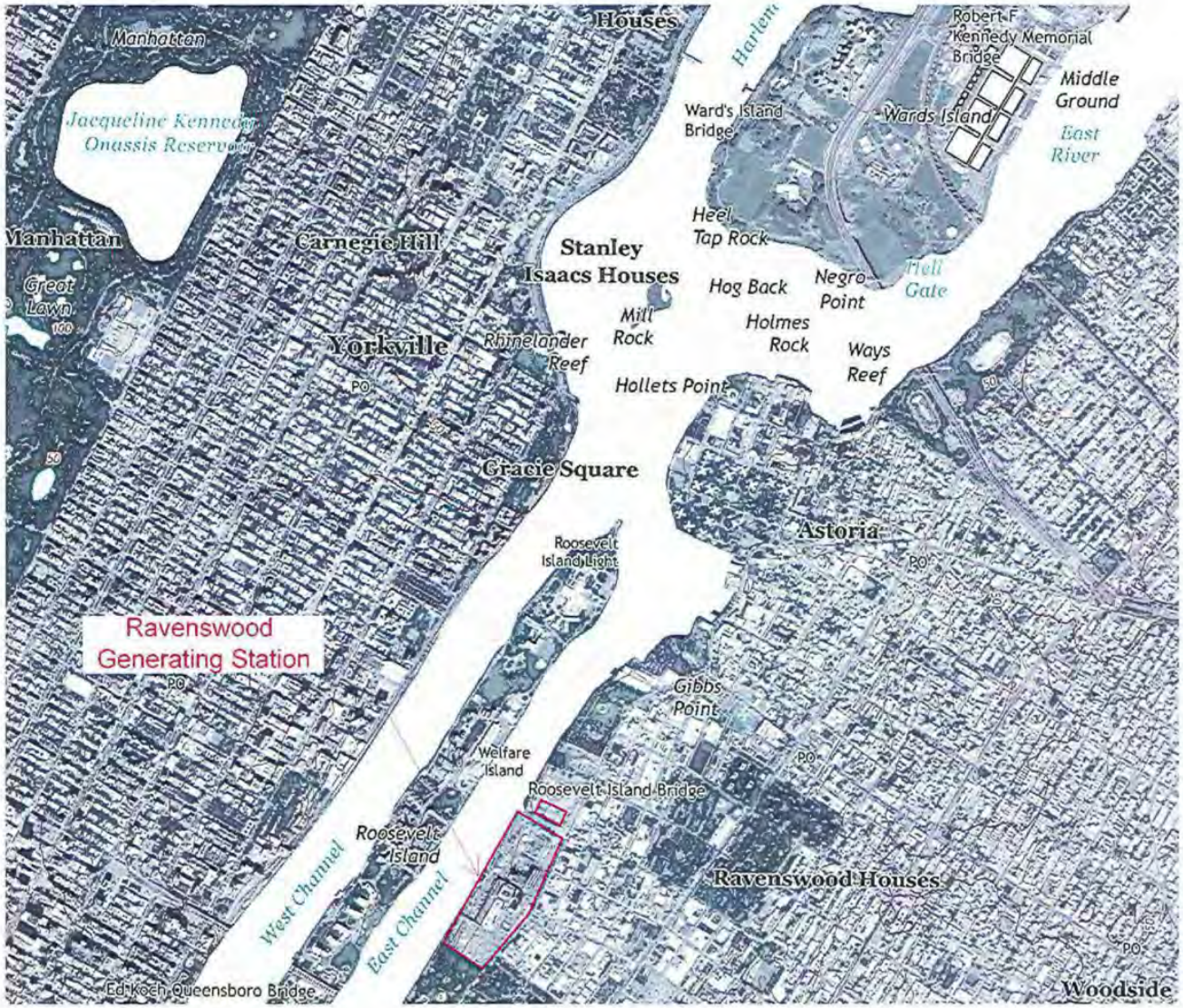
Figure 2

Source: USGS Central Park, NY-NJ 2013



A.R. 31

AR-0000035

A-74

Figure 3

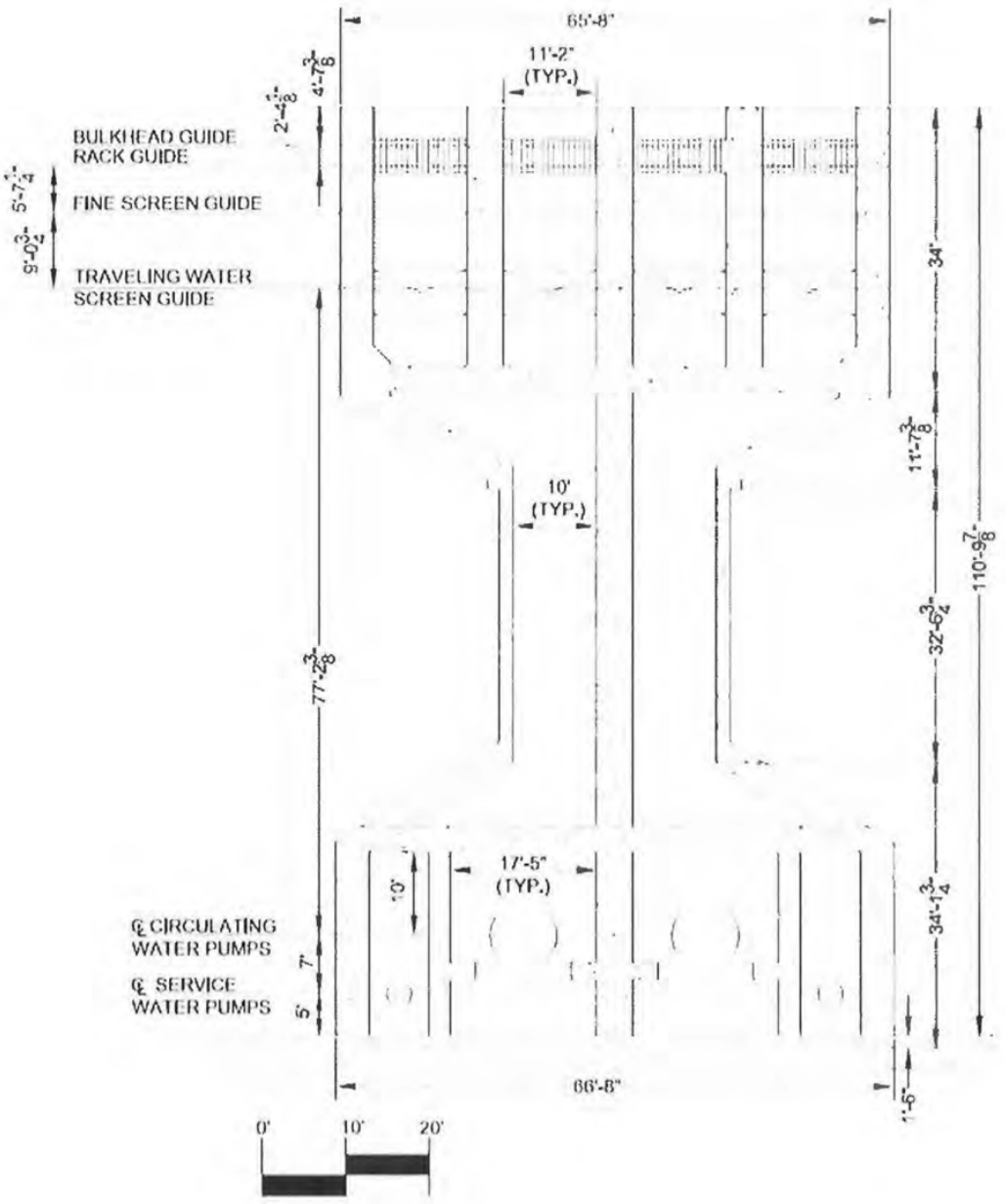


Figure 3 – Ravenswood Generating Station Unit 10 CWIS – Plan
(Unit 20 is Identical)

Figure 4

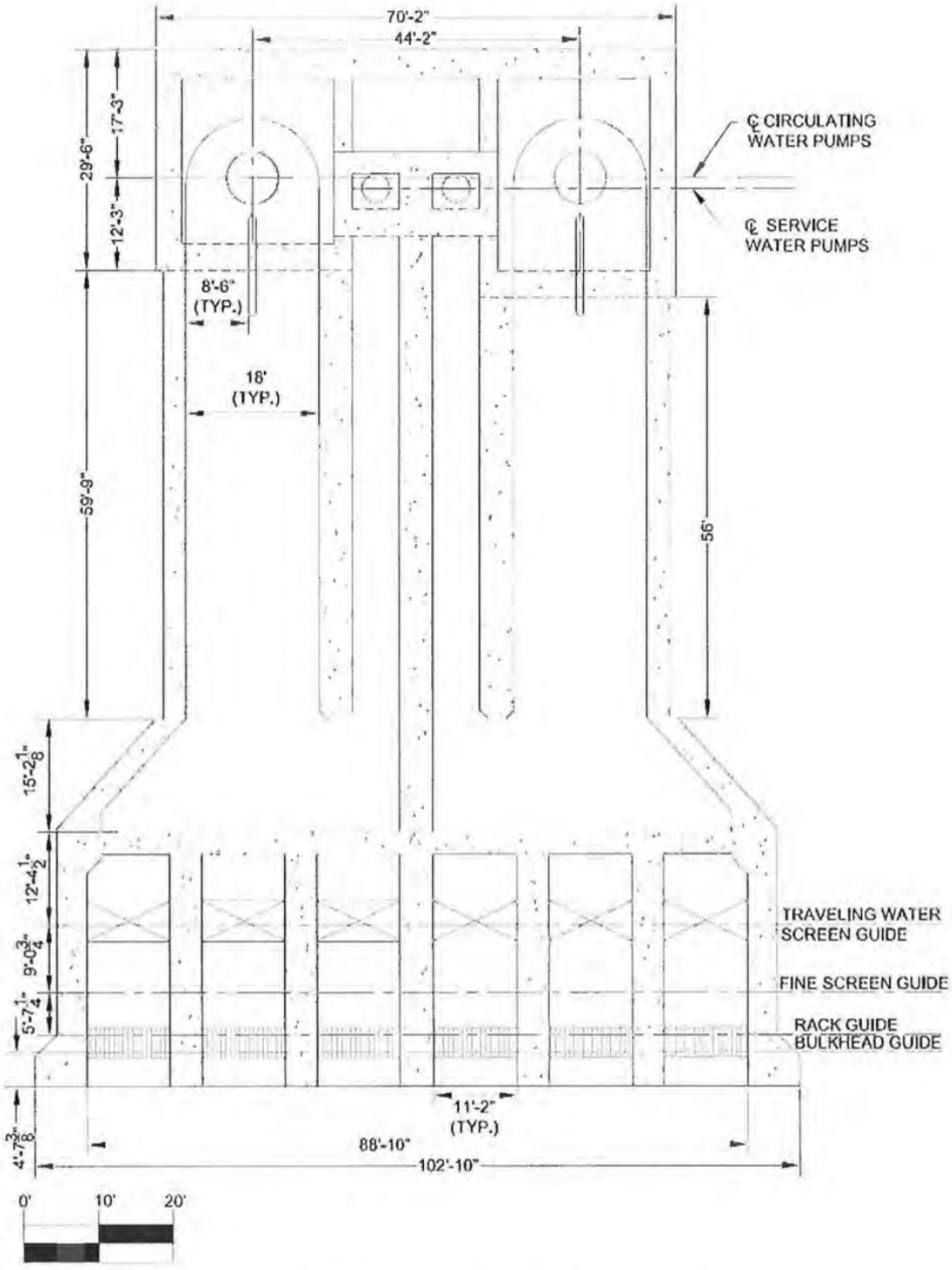


Figure 4 – Ravenswood Generating Station Unit 30 CWIS – Plan

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION ("DEC")
NOTICE OF COMPLETE APPLICATION, DATED AUGUST 1, 2013

THIS IS NOT A PERMIT

New York State Department of Environmental Conservation
Notice of Complete Application

Date 8/1/2013

Applicant TC RAVENSWOOD LLC
110 TURNPIKE RD STE 203
WESTBOROUGH, MA 01581

Facility RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS , NY 11101

Application ID 2-6304-00024/00054

Permit(s) Applied 1 - Water Withdrawal Non-public

Project is located in QUEENS COUNTY

Project Description INITIAL 601 WW PERMIT

Uniform Procedures Act

This is to advise you that your application for the permit(s) listed above is complete. It does not signify approval of your application for permit. Additional information may be requested from you at a future date if it is needed to reach a decision on your application. It has been determined that your application is a minor project. A decision is due to you within 45 days of the date of this notice.

State Environmental Quality Review (SEQR) Determination

Project is not subject to SEQR because it is a Type II action

For further information please contact:

KENT P SANDERS, NYSDEC
625 BROADWAY
ALBANY, NY 12233
(518) 402-9178

cc: File
ECC Only:
S. Mitchell, BWP
E. Schmitt, BWQM
M. Holt, BWQM

A-80

ENVIRONMENTAL NOTICE BULLETIN ("ENB") NOTICE OF PUBLIC COMMENT PERIOD ON RAVENSWOOD APPLICATION FOR INITIAL PERMIT, DATED AUGUST 7, 2013 [A-80 - A-88]

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

ENB Region 2 Completed Applications 08/07/2013

Region 2 SEQR and Other Notices
Region 2 SPDES Renewals

Kings County

Applicant:

Poly Craft Industries Corp
40 Ranick Rd
Hauppauge, NY 11788 -4209

Facility:

Poly Craft Industries Corp
12 Franklin St
Brooklyn, NY 11222

Application ID:

2-6101-00090/00005

Permit(s) Applied for:

Article 19 Air State Facility

Project is Located:

Brooklyn, Kings County

Project Description:

The Department has made a tentative determination to approve an application for Emission Reduction Credits (ERCs) for the permanent closing of the referenced facility. ERCs being applied for are from past emission reductions resulting from a facility shut down and enforced by the surrender of that facility's permit. The ERCs created were based on emissions compliant with the RACT requirements of 6 NYCRR Part 234. DEC proposes to approve emission reduction credits as follows: VOCs - 15.5 tons. The application and relevant supporting materials are available for review during normal business hours at the DEC office provided in this notice.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is not subject to SEQR because it is a Type II action.

SEQR Lead Agency: None Designated

State Historic Preservation Act (SHPA) Determination:

The proposed activity is not subject to review in accordance with SHPA. The permit type is exempt or the activity is being reviewed in accordance with federal historic preservation regulations.

Coastal Management:

This project is not located in a Coastal Management area and is not subject to the Waterfront Revitalization and Coastal Resources Act.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Sep 06, 2013*.

Contact:

Elizabeth A Clarke
NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City, NY 11101
(718)482-4997
r2dep@gw.dec.state.ny.us

Applicant:

Wildlife Conservation Society
2300 Southern Blvd
Bronx, NY 10460 -1099

Facility:

WCS - New York Aquarium
502 Surf Ave
Brooklyn, NY 11224

Application ID:

2-6107-00084/00003

Permit(s) Applied for:

Article 17 Titles 7 & 8 Industrial SPDES - Surface Discharge
Article 15 Title 15 Long Island Well Temporary Dewatering

Project is Located:

Brooklyn, Kings County

Project Description:

The Department has made a tentative determination to approve this application for a new Long Island Well permit for installation of a temporary dewatering system to facilitate construction of a new shark exhibit with a withdrawal of up to 5,558,400 gallons per day and a modification of an existing SPDES permit to allow for the temporary discharge of up to an additional 3,850,000 gallons per day of groundwater from the shark tank construction. The additional 1,698,400 gallons per day will be discharged to the storm sewers. The SPDES permit is also being modified to include a requirement for a new Best Management Practices Plan for all operations at the Aquarium. A draft permit is available for inspection and comment at the regional office.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is an Unlisted Action and will not have a significant impact on the environment. A Negative Declaration is on file. A coordinated review was not performed.

SEQR Lead Agency: None Designated

State Historic Preservation Act (SHPA) Determination:

Cultural resource lists and map have been checked. No registered, eligible or inventoried archaeological sites or historic structures were identified at the project location. No further review in accordance with SHPA is required.

Coastal Management:

This project is located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Sep 06, 2013*.

Contact:

Steve A Watts
NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City, NY 11101
(718)482-4997
r2dep@gw.dec.state.ny.us

New York County

Applicant:

11 West 42nd Street Limited Partnership
520 Madison Ave
New York, NY 10022 -4213

Facility:

Power Plant Building
11 West 42nd St
New York, NY 10036

Application ID:

2-6202-00153/00004

Permit(s) Applied for:

Article 19 Air State Facility

Project is Located:

Manhattan, New York County

Project Description:

The Department has made a tentative determination to approve an application for an existing facility that formerly held an Air State Facility Permit for Small Combustion Installations. The cogeneration facility supplies all electric power to a building consisting of eight natural gas fueled engines powering electric generators. There is a boiler that uses #2 fuel oil and a CFC operated air conditioning unit. The facility's NO_x emissions are limited to 24.9 tons per year. The facility is subject to the provisions of State Facility requirements specified under 6NYCRR 201-7.

The application, draft permit, relevant supporting materials and regulations are available for review during normal business hours at the DEC office provided in this notice. Comments of support or objection may be made by filing a written statement by the deadline date indicated. DEC may schedule a public hearing based upon an evaluation of the nature and scope of any written objections raised. Hearing notices will contain instructions on filing for party status and submitting comments.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is an Unlisted Action and will not have a significant impact on the environment. A Negative Declaration is on file. A coordinated review was performed.

SEQR Lead Agency: NYS Department of Environmental Conservation

State Historic Preservation Act (SHPA) Determination:

A cultural resources survey has been completed. The report of the survey is on file. No archaeological sites or historic structures were identified at the project location. No further review in accordance with SHPA is required.

Coastal Management:

This project is not located in a Coastal Management area and is not subject to the Waterfront Revitalization and Coastal Resources Act.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Sep 06, 2013*.

Contact:

Elizabeth A Clarke
NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City, NY 11101
(718)482-4997
r2dep@gw.dec.state.ny.us

Queens County

Applicant:

TC Ravenswood LLC
110 Turnpike Rd Ste 203
Westborough, MA 01581

Facility:

Ravenswood Generating Station
38-54 Vernon Blvd
Queens, NY 11101

Application ID:

2-6304-00024/00054

Permit(s) Applied for:

Article 15 Title 15 Water Withdrawal Non-public

Project is Located:

Queens, Queens County

Project Description:

The department has made a tentative determination to issue an initial water withdrawal permit to the above-referenced applicant authorizing a withdrawal of water in the amount of approximately 1.5 billion gallons per day from the East River, Water Index Number ER (0.3 - 10.1), Class I, for use as cooling water for power production. WWA # 11,660

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is not subject to SEQR because it is a Type II action.

SEQR Lead Agency: None Designated

State Historic Preservation Act (SHPA) Determination:

The proposed activity is not subject to review in accordance with SHPA. The permit type is exempt or the activity is being reviewed in accordance with federal historic preservation regulations.

Coastal Management:

This project is not located in a Coastal Management area and is not subject to the Waterfront Revitalization and Coastal Resources Act.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Aug 22, 2013.*

Contact:

Andrea Sheeran
NYSDEC Headquarters
625 Broadway
Albany, NY 12233
(518)402-9167
depprmt@gw.dec.state.ny.us

Applicant:

Dayton Bch Park # 1 Corporation
8600 Shore Front Parkway
Far Rockaway, NY 11693 -1854

Facility:

Dayton Beach Park # 1 Corporation

A-86

8600 Shore Front Parkway
Far Rockaway, NY 11693

Application ID:

2-6308-00233/00006

Permit(s) Applied for:

Article 19 Air State Facility

Project is Located:

Queens, Queens County

Project Description:

The Department has made a tentative determination to approve an application for an existing facility that formerly held an Air State Facility Permit for Small Combustion Installations. The facility operates combustion installation consisting of five Gibralter boilers installed prior to 6/9/89) and one Federal A.L. Eastmond boiler (installed in 2006). There are two boilers rooms at the facility each containing three boilers. The facility NO_x emissions are limited to 24.9 tons per year. The facility is subject to the provisions of State Facility requirements specified under 6 NYCRR 201-7.

The application, draft permit, relevant supporting materials and regulations are available for review during normal business hours at the DEC office provided in this notice. Comments of support or objection may be made by filing a written statement by the deadline date indicated. DEC may schedule a public hearing based upon an evaluation of the nature and scope of any written objections raised. Hearing notices will contain instructions on filing for party status and submitting comments.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is an Unlisted Action and will not have a significant impact on the environment. A Negative Declaration is on file. A coordinated review was performed.

SEQR Lead Agency: NYS Department of Environmental Conservation

State Historic Preservation Act (SHPA) Determination:

A cultural resources survey has been completed. The report of the survey is on file. No archaeological sites or historic structures were identified at the project location. No further review in accordance with SHPA is required.

Coastal Management:

This project is not located in a Coastal Management area and is not subject to the Waterfront Revitalization and Coastal Resources Act.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Sep 06, 2013*.

Contact:

Elizabeth A Clarke
NYSDEC Region 2 Headquarters
47-40 21ST St
Long Island City, NY 11101
(718)482-4997
r2dep@gw.dec.state.ny.us

Richmond County

Applicant:

Richmond University Medical Center
355 Bard Ave
Staten Island, NY 10310

Facility:

Richmond University Medical Center
355 Bard Ave
Staten Island, NY 10310

Application ID:

2-6401-00302/00003

Permit(s) Applied for:

Article 19 Air State Facility

Project is Located:

Staten Island, Richmond County

Project Description:

The Department has made a tentative determination to approve an application for an existing facility that formerly held an Air State Facility Permit for Small Combustion Installations. The facility is a medical institution that operates a combustion installation consisting of three boilers rated at 30.8 mmBtu/hr each firing natural gas or #2 fuel oil, two engine driven chillers and five exempt emergency generators. The facility NO_x emissions are limited to 24.9 tons per year. The facility is subject to the provisions of State Facility

requirements specified under 6 NYCRR 201-7.

The application, draft permit, relevant supporting materials and regulations are available for review during normal business hours at the DEC office provided in this notice. Comments of support or objection may be made by filing a written statement by the deadline date indicated. DEC may schedule a public hearing based upon an evaluation of the nature and scope of any written objections raised. Hearing notices will contain instructions on filing for party status and submitting comments.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is an Unlisted Action and will not have a significant impact on the environment. A Negative Declaration is on file. A coordinated review was performed.

SEQR Lead Agency: NYS Department of Environmental Conservation

State Historic Preservation Act (SHPA) Determination:

A cultural resources survey has been completed. The report of the survey is on file. No archaeological sites or historic structures were identified at the project location. No further review in accordance with SHPA is required.

Coastal Management:

This project is not located in a Coastal Management area and is not subject to the Waterfront Revitalization and Coastal Resources Act.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Sep 06, 2013.*

Contact:

Elizabeth A Clarke
NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City, NY 11101
(718)482-4997
r2dep@gw.dec.state.ny.us

Region 2 SEQR and Other Notices
Region 2 SPDES Renewals

ENB NOTICE OF EXTENSION OF PUBLIC COMMENT PERIOD ON RAVENSWOOD APPLICATION FOR INITIAL PERMIT, DATED AUGUST 28, 2013 [A-89 - A-93]

NEW YORK STATE
DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

ENB - Region 2 Notices 8/28/2013

Public Notice

Notice of Legislative Public Hearing

Location: New York City Department of Parks and Recreation
Lehman College's Lovinger Theater (In The Music Building)
250 Bedford Park Boulevard West, Bronx, New York 10468

Applicant: New York City Department of Parks and Recreation
Olmstead Center
Flushing Meadows Corona Park
Flushing, New York 11368

Application Number: New York State Department of Environmental Conservation (NYS DEC) Application ID # 2-6001-00014/00008

Project Description and Location: Applicant New York City Department of Parks and Recreation (NYS DPR) has applied to the New York State Department of Environmental Conservation (NYS DEC) for a Freshwater Wetlands Permit to change the surface and width of the Putnam Rail Trail, which runs for approximately 1.5 miles on the Old Putnam Railroad track in Van Cortlandt Park from Van Cortlandt Park South to the New York City's boundary line with Westchester County in the north. The proposed project would remove creosote treated rail ties; add approximately 4 ½ inches of pavement on top of the existing rail ballast to create a ten foot (10') wide asphalt path with an adjacent three foot (3') wide earthen-jogging path on one side and an adjacent two foot (2') wide seeded buffer on the other side of the asphalt path; improve drainage on and beneath the trail by filling existing depressions and cleaning or, where necessary, replacing culverts; remove portions of a chain link fence; install a wooden split rail fence in some areas; install benches and path markers; clean and adapt historic artifacts; restore a train platform; remove trees under six inch caliper within the fence line of the corridor and eight to twenty trees larger than six inch caliper; remove invasive plant species; and install landscape plantings. Sections of the proposed work will take place in areas that are subject to the jurisdiction of the NYS DEC under the Freshwater Wetlands Act. Specifically, some of the modifications will take place in the area adjacent to freshwater wetland YO-1 and in two areas, where the trail traverses Van Cortlandt Lake, the project will take place above that wetland.

SEQRA Status: The project is an "unlisted action" as defined in 6 NYCRR 617.2(ak) that was subject to a coordinated review. NYS DPR served as lead agency and issued a negative declaration on June 8, 2011, based upon its determination that the project will cause no significant adverse environmental impacts. 6 NYCRR 617.2(y), 617.7.

Notice of Complete Application: NYS DEC Staff issued a notice of complete application on April 26, 2013.

Coastal Assessment: The project is not located in the coastal area and therefore no coastal assessment is required.

Public Legislative Hearing

In accordance with the provisions of Parts 621 and 663 of 6 NYCRR, a legislative hearing will be held before Administrative Law Judge (ALJ) Richard A. Sherman to receive unsworn statements from the public on the permit application. **The hearing will be held on Monday, September 23, 2013, at 6:00 p.m. at Lehman**

College's Lovinger Theater (in the Music Building), 250 Bedford Park Boulevard West, Bronx, New York 10468.

All persons, organizations, corporations or government agencies that may be affected by the project are invited to attend the hearing session to submit oral or written comments. It is not necessary to file a written request in advance to speak at the legislative hearing.

The hearing location is reasonably accessible to persons with mobility impairments. Interpreter services shall be made available to deaf persons, at no charge, upon written request to the ALJ at least 10 business days before the hearing.

Written comments may also be sent to Harold Dickey,NYS DEC - Division of Environmental Permits, 47-40 21st Street, Long Island City, NY 11101-5407. **Written comments must be received by Monday, September 23, 2013.**

Document Availability: A copy of the application materials is available for inspection at the NYS DEC's Region 2 office, 47-40 21st Street, Long Island City, NY. (Please contact the Division of Environmental Permits at (718) 482-4997 to arrange a time during normal business hours.)

Applicable Statutory and Regulatory Provisions, Permits Applied For:

This application is being processed pursuant to ECL Article 3 (General Functions), Article 24 (Freshwater Wetlands), Article 70 (Uniform Procedures); as well as 6 NYCRR Part 621 (Uniform Procedures), and Part 663 (Freshwater Wetlands - Permit Requirements).

Contact: Harold Dickey, NYS DEC - Region 2 Office, Division of Environmental Permits, 47-40 21st Street, Long Island City, NY 11101, Phone: (718) 482-4972, E-mail: r2dep@gw.dec.state.ny.us.

Fact Sheet

The New York State Department of Environmental Conservation (NYS DEC) has received a Brownfield Cleanup Program (BCP) application with Draft Remedial Investigation Work Plan from 853 Lexington LLC for a site known as the Former Commercial Laundry, site ID #C224180. This site is located in the City of Brooklyn, within the County of Kings, and is located at 853 Lexington Avenue 11221. **Comments regarding this application must be submitted no later than September 27, 2013.** Information regarding the site, the application, and how to submit comments can be found at: http://www.dec.ny.gov/chemical/60058.html or send comments to: John Durnin, NYS DEC - Division of Environmental Remediation, Remedial Bureau B, 625 Broadway, 12th Floor, Albany, NY 12233-7016, Phone: (518) 402-9768, E-mail: jedurnin@gw.dec.state.ny.us.

To have information such as this notice sent right to your e-mail, sign up with county e-mail listservs available at: www.dec.ny.gov/chemical/61092.html.

Notice of Extension of Public Comment Period

New York State Department of Environmental Conservation (NYS DEC) has extended the Public Comment Period for the below Referenced Project until September 11, 2013. This complete notice was previously published in the August 7, 2013 ENB at: http://www.dec.ny.gov/enb/20130807_reg2.html.

Applicant: Trans Canada Ravenswood LLC
Address: 38-54 Vernon Boulevard
Long Island City, NY 11101

Permits applied for and application numbers: Initial Water Withdrawal Permit,

DECID# 2-6304-00024/00054

Project description and location:

The applicant has applied for an initial permit for the continued withdrawal of 1.5 billion GPD of water for operation of the Ravenswood Generation Station. The Station has been in operation since 1963. No changes in current operations are proposed. NYS DEC has determined that the Facility is eligible for an Initial Permit which are limited to existing facilities for existing water withdrawals over 100,000GPD which were properly reported to the Department.

State Environmental Quality Review (SEQR) Determination:

SEQR - 1 - Project is a Type II action
NYS DEC has determined that the issuance of "initial permits" under ECL section 15-501.9 as implemented by 6 NYCRR 601.7 is a ministerial action and therefore subject to the Type II exemption set out in 6 NYCRR 617.5(c)(19).

SEQR Lead Agency: Not applicable

State Historic Preservation Act (SHPA) Determination:

SHPA - 1 Cultural resource lists and map have been checked. No registered, eligible or inventoried archaeological sites or historic structures were identified at the project location. No further review in accordance with SHPA is required.

Coastal Management:

This project is located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act.

Availability for Public Comment:

The application may be reviewed at the address to the right. Written comments on the project must be submitted to the Contact Person by no later than: September 11, 2013

Contact: Kent P. Sanders, NYS DEC - Division of Environmental Permits, 625 Broadway, Albany, NY 12306-2014, Phone: (518) 402-9178, Fax: (518) 402-9168,
E-Mail depprmt@gw.dec.state.ny.us.

Negative Declaration

Bronx County (Bronx) - The City of New York Housing Preservation and Development (NYC HP), as lead agency, has determined that the proposed Banana Kelly - 755 Dawson Street will not have a significant adverse environmental impact. The action involves an application by NYC HP, on behalf of the project sponsor, Banana Kelly Community Improvement Association, Inc. The project sponsor is requesting construction financing allocated by NYC HP that would include City Capital funds, as well as federal funding from the U.S. Department of Housing and Urban Development (HUD), and the HOME Investment Program (HOME) for the moderate rehabilitation of the building. Additional financing will include a Private Lender First Mortgage, Private Developer Equity, Private Bank Loan, and City Council Fund. The proposed actions would facilitate the rehabilitation of one existing five (5) story residential building, located at 755 Dawson Street, in the Bronx, Community District 2, New York. Under the proposed actions, moderate interior rehabilitation would occur resulting in a total of 11 units of affordable housing.

The proposed project is located adjacent to the Kingwood Historic District, Landmarks Preservation Commission and State/National-Register listed in the Bronx and is therefore considered a Type I action under CERES. The existing building contains 11 units. Under the proposed action, rehabilitation would occur and result in 11 affordable units. The proposed rehabilitation work is intended to address the moderate interior rehabilitation of the building. The New York City's construction financing would be used for some minor layout changes to comply with City, State, and Federal regulations for handicap accessibility otherwise the building will remain as it currently stands. The proposed rehabilitation will not alter the unit count or distribution. No construction related impacts to neighboring properties are anticipated as no ground disturbance or changes to the building's overall floor area, height, or footprint are proposed. For all the reasons discussed above, the proposed project would not result in significant adverse impacts to historic resources.

In the event that any State or Federal funding is sought in connection with the proposed project consultation with New York State Office of Parks Recreation and Historic Preservation (NYS OPRHP) in accordance with Section 106 of the National Historic Preservation Act of 1966 would be required prior to the release of funds and start of construction.

Contact: Patrick Backfield, NYC HP, 100 Gold Street, Room V-3, New York, NY 10038, Phone: (212) 863-5056 Fax: (212) 863-5052 Email: blanch@hpd.nyc.gov.

Positive Declaration and Public Scoping

New York County (Manhattan) - The New York State Department of Health (NYS DOH), as lead agency, has determined that the proposed Jewish Home Lifetree, Manhattan -- Replacement Nursing Facility Project may have a significant adverse impact on the environment and a Draft Environmental Impact Statement must be prepared. Written comments on the draft scope will be accepted October 2, 2013. **A public scoping session will be held on September 17, 2013 at 6:30 p.m. at 120 West 400th Street, New York, NY 10025.** The action involves the NYS DOH's approval of a construction application filed pursuant to Section 2802 of the Public Health Law (PHIL) that would consist of Jewish Home Lifetree (HOLY) in Manhattan's Upper West Side neighborhood. The Proposed Project would result in the construction of a new 414 bed skilled nursing facility in a single newly constructed building on the Project Site with private and semi private rooms, replacing the 514 existing, mostly semi private beds currently located in several older buildings in HOLY, Manhattan's existing nursing facility. This would represent a reduction in the NYS DOH certified bed complement of 100 beds. The Proposed Project would redevelop an existing, approximately 31,804 square foot, 88 space surface accessory parking lot located on the project site with a new, 20 story (plus cellar floor), approximately 376,000 gross square foot building. The project is located at 125 West 10th Street, in the Borough of Manhattan, New York.

Contact: Charles P. Abel, NYS DOH, Corning Tower, Empire State Plaza, Albany, NY 12237, Phone: (518) 402-0967, E-mail: dehumidified@health.state.ny.us.

New York County (Manhattan) - The United Nations Development Corporation, as lead agency, has determined that the proposed The United Nations Consolidation Project, including the United Nations Consolidation Building may have a significant adverse impact on the environment and a Draft Environmental Impact Statement must be prepared. **A public scoping session will be held on September 24, 2013 at 6:00 p.m. at the Farkas Auditorium, NY Langone Medical Center, 550 First Avenue, New York, NY 10016.** The action involves the construction of an approximately 36 story, approximately 930,000 square foot office building for use by United Nations office workers currently using space leased by the United Nations elsewhere in New York City. The Consolidation Building would be located on an approximately 28,850 square foot site, which currently is the western portion of the Robert Moses Playground on the east side of

First Avenue (United Nations Plaza) between East 41st Street and East 42nd Street in Manhattan. In conjunction with the Consolidation Building, a tunnel would be constructed to provide direct secure access other than by automobile between the United Nations headquarters campus and the Consolidation Building.

A draft Scope of Work for the Proposed Action is being prepared and will be available on or about August 30, 2013 for involved and interested agencies and the public for review and comment.

Construction is expected to begin in 2015 and to be completed in 2018.

The project is located at 724 First Avenue in Manhattan, New York.

Contact: Frances Huppert, United Nations Development Corporation, Two UN Plaza, 27th Floor, New York, NY 10017, Phone: (212) 888-1618, E-mail: fhuppert@undc.org.

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, NY 12233-1750
Phone: (518) 402-9167 • **Fax:** (518) 402-9168
Website: www.dec.ny.gov

Joe Martens
Commissioner

November 15, 2013

Mr. Kenneth Yager
TC Ravenswood LLC.
110 Turnpike Rd Suite 203
Westborough, MA 01581

RE: DEC #2-6304-0002400054
Ravenswood Generating Station
38-54 Vernon Blvd, Queens County

Dear Mr. Yager;

Based on the May 31,2013 permit application concerning the above-referenced facility, an Initial Water Withdrawal Permit has been issued and is enclosed. Please read the enclosed permit carefully and note the conditions that are included. This permit will be in effect concurrently with the facility's SPDES Permit (NY-0005193) and is scheduled to **expire on October 31, 2017. unless timely renewed.**

The permitted withdrawal volume is up to 1.39 billion gallons per day (gpd), the volume your facility reported to the Department as of February 15, 2012 pursuant to ECL § 15-3301. The maximum permitted withdrawal volume determination in the enclosed Initial Permit is based on the express requirements in ECL § 15-1501.9, which state the following:

> *The department shall issue an initial permit, subject to appropriate terms and conditions as required under this article, to any person not exempt from the permitting requirements of this section, for the maximum water withdrawal capacity reported to the department pursuant to the requirements of title sixteen or title thirty-three of this article on or before February fifteenth, two thousand twelve.*

An increase in the permitted maximum withdrawal volume would require an application for a modification of the enclosed Initial Permit under normal permitting procedures.

Please be advised that the Uniform Procedures Regulations (6 NYCRR Part 621) provide that an applicant may request a public hearing if a permit is denied or contains conditions which are unacceptable to them. Any such request must be made in writing within 30 calendar days of the date of permit issuance and must be addressed to the Regional Permit Administrator at the letterhead address. A copy should also be sent to the Chief Administrative Law Judge at NYSDEC, 625 Broadway, 1st Floor, Albany, NY 12233-1550.

Also note that this permit does not eliminate the need to obtain any other federal, state or local permits or approvals that may be required for this project.

Permit Expiration and Renewal
Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration. As provided for in NYCRR 621.11(l) permit coverage may be extended during Department review pursuant to section 401(2) of the State Administrative Procedures Act for projects that submit timely and sufficient renewal applications.

Should you have any questions regarding your obligations under the permit, please feel free to contact me by phone at (518) 402-9178 or by email at kpsander@gw.dec.state.ny.us.

Sincerely,

Kent P. Sanders
Deputy Chief Permit Administrator

Enclosures: Permit
cc: M. Holt, DOW
C. Conyers, OGC
G. Pryor, Trans Canada Ravenswood LLC

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 2-6304-00024

PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
TC RAVENSWOOD LLC
110 TURNPIKE RD STE 203
WESTBOROUGH, MA 01581
(508) 871-1850

Facility:
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Facility Location: in QUEENS COUNTY **Village:** Long Island City
Facility Principal Reference Point: NYTM-E: 588.961 NYTM-N: 4512.613
Latitude: 40°45'34.8" Longitude: 73°56'45.8"
Project Location: 38-54 Vernon Boulevard
Authorized Activity: This permit authorizes the withdrawal of a supply of water up to 1,390,000,000 gallons per day (GPD) from the East River for once through cooling and other processes related to electrical generation.

Permit Authorizations

Water Withdrawal Non-public - Under Article 15, Title 15
Permit ID 2-6304-00024/00054 (WWA No. 11660)
New Permit Effective Date: 11/15/2013 Expiration Date: 10/31/2017

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KENT P SANDERS, Deputy Chief Permit Administrator
Address: NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233

Authorized Signature: Kent P. Sanders Date 11/15/2013

Permit Components

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

1. **Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.

2. **Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.

3. **Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.

4. **Cooling Water Withdrawals Regulated by SPDES** Nothing in this water withdrawal permit shall supercede the need to, where necessary, obtain an appropriate SPDES permit that allows for the operation of a cooling water intake structure and the discharge of the amounts of water approved by this water withdrawal permit. If any modifications to the location, or capacity of the intake structure are required by the permittee's SPDES permit, permittee must also apply for a modification of this water withdrawal permit to reflect such changes.

5. **Incorporation of the SPDES Water Conservation and Fisheries Protection Measures** Required measures for water conservation and the reduction of impacts to the fisheries resource contained in the Biological Monitoring Requirement Section of the facilities SPDES permit # NY0005193 are hereby incorporated by reference into this permit.

6. **Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY. by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.

7. **Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.

8. **Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Deputy Chief Permit Administrator
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY12233

4. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

A-100

DEC RESPONSE TO PUBLIC COMMENTS ON APPLICATION FOR RAVENSWOOD INITIAL PERMIT, DATED NOVEMBER 15, 2013 [A-100 - A-104]

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, NY 12233-1750
Phone: (518) 402-9167 • **Fax:** (518) 402-9168
Website: www.dec.ny.gov

Joe Martens
Commissioner

November 15, 2013

To: Interested Parties and Stakeholders:

Re: Response to Public Comments on Application for Initial Water Withdrawal Permit
DEC #2-6304-0002400054
Ravenswood Generating Station
38-54 Vernon Blvd, Queens County

This letter responds to the public comments received by the New York State Department of Environmental Conservation (NYSDEC) on the above-referenced Initial Water Withdrawal Permit application for the Ravenswood Generating Station located at 38-54 Vernon Blvd, Queens NY. The Department offers these responses because of the public interest in the recently-revised water withdrawal regulations and in the statutorily required "Initial Permits" that are being issued under the revised regulations.

Many public comments were received on the above-referenced Initial Permit application. The comments are available from the Department on request. The public comments have been compiled and are presented below along with the Department's responses.

Comment 1

The Ravenswood Initial Permit application fails to provide information on upstream water withdrawals, safe yield analyses, and passby flow calculations

Response 1

The Department determined that the application was complete on August 1, 2013 after technical review. Some of the items called for in the regulations governing water withdrawal permit application (6 NYCRR § 601.10) are not applicable to the withdrawal. Information on rainfall, safe yield, river flow, contributing watershed size, passby analysis or other upstream water withdrawals, is not germane to the Ravenswood Project as the East River is not, in fact, a river but rather a strait between Long Island Sound and Lower New York Harbor. Information on tidal flows, and intake structure designs was provided in the application.

Comment 2

Ravenswood Fails to Provide an Adequate *Watershed Map*

Response 2

The maps submitted with this application are considered to be adequate for this project.

Comment 3

DEC should reclassify the as a Type I action because the withdrawal is over 2 Million Gallons per day.

Response 3

As provided by ECL §15-1501.9 the Department has no discretion but to issue "initial permits" for the amount of the water withdrawals for users that were in operation and properly reported their withdrawals to the Department as of February 15, 2012. ECL

Under these circumstances, the issuance of the water withdrawal permit here is covered by the Type II category for ministerial actions set out in section 617.5(c)(19) of the Department's SEQR regulations. "Ministerial action" is defined [under the SEQR regulations] as "an action performed upon a given state of facts in a prescribed manner imposed by law without the exercise of any judgment or discretion as to the propriety of the act…" Here, above and beyond the amount of the permitted withdrawal (which is prescribed by statute), the Legislature has restricted the Department's discretion to the standard form permit and the imposition of sound water conservation measures.. Generally, an action may be deemed ministerial, if it could not have been approved or denied on the basis of SEQR's broader environmental concerns. The fact that the withdrawal is for an amount that exceeds the Type I threshold does not remove it from the Type II classification..Items on the Type II list under 617.5(c) provide exemptions from SEQRA irrespective of whether the action is also present on the Type I list unless they contain a limitation that the action cannot "meet or exceed any threshold on the Type I list".

Comment 4

The revised notice recognizes that the project is in fact located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act. Now that this is recognized, it would seem that the DEC's consideration of Ravenswood's application for a water withdrawal permit is premature and should not be undertaken until the NYS Department of State and New York City have ruled on the project's consistency with the relevant State and City coastal management policies, including Policy 18:

Response 4

The Coastal Management Program only applies to Type 1 and Unlisted Actions under SEQR. Type II actions do not require a Coastal Consistency Certification. As a consequence, no coordination with the Department of State is required. It must be recalled the Ravenswood water

withdrawal is not new and as such is not presenting any new impacts to the environment. The Department's action in issuing an initial permit for the withdrawal is mandated by state statute for the existing and reported withdrawals that were previously unregulated.

Comment 5

DEC should not create a class of 'initial permits'.

Response 5

The comment is acknowledged. Initial permits were created by the amendments to New York's water withdrawal law. As cited above, under ECL § 15-1501.9, an initial permit "shall be issued" for existing withdrawals that were properly reported to the Department as of February 15, 2012.

Comment 6

Impacts on the Brooklyn-Queens Sole Source Aquifer Must Be Considered Possible impacts of the heavy withdrawals from the East River by the Ravenswood project right at the edge of the Brooklyn-Queens sole source aquifer must be considered in evaluating the environmental impacts of the project.

Response 6

The overwhelming majority of the water withdrawn is returned to the East River within minutes of the withdrawal and within 50 feet of the intakes. Impacts to the Brooklyn-Queens Aquifer are not anticipated.

Comment 7

Ravenswood Fails to Comply with Proper Water Conservation and Efficiency Measures
The responses contained in the Water Conservation Program (WCP) form attached as Appendix B to the Ravenswood application show that Ravenswood's water conservation measures are inadequate in at least five respects.

Response 7

See the Response to Comment 8 below. A comprehensive water conservation plan suitable for this facility was developed pursuant to the facility's SPDES permit.

Comment 8

Fish Kill Issues Must Be Considered
The issuance of a new type of permit to Ravenswood requires that a SEQRA review be done for this permit. Whatever understanding the parties may have reached with regard to the Ravenswood SPDES permit regarding environmental reviews, that understanding does not

encompass the issuance of a new type of permit that was not in existence at the time the understanding was reached.

Response 8

See the Response to Comment 2 above concerning SEQR. In 2007 the Department issued a Departmental Initiated Modification to require the Ravenswood Generating Station up to reduce entrainment mortality by 65% and impingement mortality by 79% from the full flow baseline of Ravenswood water withdrawal system pursuant to 6 NYCRR § 704.5 and § 316(b) of the federal Clean Water Act (CWA).

The applicant was also required to propose additional measures to further reduce impingement mortality, achieving a 90% reduction from full flow baseline. These levels of impact reduction meet the § 316(b) Phase II Best Technology Available (BTA) performance standards. This modification required numerous studies and evaluations of impacts and alternatives, was subject to SEQRA, and a Negative Declaration of Significance was issued. These permit requirements are binding on the applicant.

As noted in Appendix B of the 2012 SPDES permit for the facility, in determining BTA the Department considered the closed cycle cooling alternative:

> "...after evaluating all of the available alternatives the New York State Department of Environmental Conservation determined that, in combination, the following technologies and operational measures listed here represent the best technologies available for minimizing adverse environmental impacts from the cooling water intake system. Implementation of these items was completed by early 2012...
> ..."
>
> a) Installation of variable speed pumps and ancillary equipment at Ravenswood Units 1, 2 and 3 that will allow for the reduction in cooling water use during periods of low electrical generation;
> b) Scheduling of a planned outage process that will require cooling water pumps to be shut down to reduce impingement and entrainment during periods of non electrical generation;
> c) Upgrades to the existing traveling intake screens at Ravenswood Units 1, 2 and 3 to allow for the continuous operation of all traveling intake screens and construction of low stress fish returns, to increase fish impingement survival;..."

Further, NYCRR Part 601.7(f) requires: Where the water withdrawal system listed in an initial permit application is associated with a project, facility, activity or use that is subject to a SPDES permit or another Department permit, the Department will review the initial permit application in coordination with the SPDES or other permit program, particularly with respect to any pending permit renewals.

Conditions requiring BTA for reducing fish impingement and entrainment and reduced water usage are incorporated in the station's 2012 SPDES permit. The Department has considered

these SPDES permit requirements in its review of the Initial Permit Application for a Water Withdrawal Permit.

Thank you for taking the time to comment on this application. If you have any questions or need further information, please don't hesitate to contact me.

Sincerely,

Kent P. Sanders
Deputy Chief Permit Administrator
Division of Environmental Permit

NEGATIVE DECLARATION
Ravenswood Generating Station
December 11, 2006

Background

The Ravenswood Generating Station, located on the East River, contains three units with rated capacities of 400, 400 and 1027 megawatts. The facility has a combined flow of condenser cooling water and service water of 1457 million gallons per day. The shoreline intake structure consists of 14 intake bays and conventional through flow traveling screens to keep the station's condenser clear. Marine organisims and debris washed off the screens at each unit are returned to the East River through a Department approved, low stress fish return pipe.

Ecological Resource

The East River is part of the Hudson-Raritan Estuary System, extending 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The estuary system connects to the coastal marine water of the New York Bight, between Sandy hook, NJ and Rockaway Point, NY, and to the western end of the Long Island Sound through the East River.

The East River is a tidal strait extending about 16 miles from the battery to Throgs Neck at Long Island Sound. At Hell's Gate, a natural sill divides the strait into two distinct hydrological sections. The upper East River, which connects to Long Island Sound, is broader, more shallow and characterized by more natural shoreline habitat. The Lower East River, where the Station is located, is a narrower 10 mile section, bulkheaded along most of its length. The channel here is steep sided with depths at approximately 35 to 80 feet. Current velocities in this part of the East River are high, with average peak flood and ebb currents at about 4.6-4.7 feet per second, and maximum tidal velocities exceeding 5.5 feet per second (ASA, 2001).

More than 140 species of fish have been reported from the Hudson-Raritan Estuary System, representing marine, estuarine, freshwater and diadromous fish , as well as species adapted to northern and southern climates. More than 50 species of fish, mostly marine in origin, have been identified from studies conducted a series of studies to assess the Station's impact on aquatic resources. Under a 1992 consent order with the Department, Con Edison conducted a series of studies to assess the Station's impact on aquatic resources in the East River and determine best technology available for the cooling water intake system. Impingement and entrainment studies conducted were between 1991 and 1994. Approximately 83,000 fish were estimated to be impinged per year, mainly winter flounder, blueback herring, bay anchovy and grubby. Entrainment studies conducted over that time estimated that an average of 220 million eggs, larvae and juvenile fish were entrained per year, with eggs accounting for approximately 75% of the total. The principal species entrained were four beard rockling, bay anchovy, winter flounder, grubby and silver hake.

Studies required under the consent order determined that several species of impinged fish, including winter flounder, bay anchovy and Atlantic tomcod, experience thermal

stress and possibly increased levels of mortality upon exposure to the high summer temperatures in the cooling water discharge canal. A mark-recapture study was then conducted to determine suitable location(s) to return fish directly to the East River without exposure to the station's thermal discharge. Construction of three fish return pipes, one for each unit, was completed in 2005. The system safely transports impinged fish back to the East River and is the first step in mitigating the impacts of the Station's cooling water intake system. Studies being conducted in 2006, to quantify the survival of fish impinged on the Station's intake screens.

Summary of Permit Modifications

The proposed modifications to the SPDES permit for the Ravenswood Station are being done in accordance with the Department's Environmental Benefit Permit Strategy (EBPS) program. The proposed modifications to the permit include;

Water Quality

- Increased monitoring frequency for Total Residual Chlorine from 3 times weekly to hourly.
- Removal of 01B because it has been diverted through an oil/water separator and discharged through outfall 01A.
- New outfalls 01E, 01F, 01G and 01H were added to address the separate discharges from the carbon filter backwash, pre-filter backwash, boiler blowdown and demineralizer regeneration which were previously included under outfall 01A. Chlorine limit changed from 0.2 to detectability of 0.1 mg/l based on WQ analysis and application of standard.
- Addition of outfall 007 to address the intermittent pumping of accumulated stormwater from the former settling ponds to outfall 001.
- A requirement for pH monitoring was added to outfall 01A.
- The monitoring frequency for arochlors 1254 & 1260 at outfall 004 has been reduced from 2/month to quarterly because historic monitoring has not indicated any concentrations above analytical method detection levels.
- Monitoring of benzene, ethylbenzene, toluene and xylene at outfalls 004 & 006 was revised to a 50 ug/1 limit instead of an action level to be consistent with other permits.
- Monitoring of total suspended solids at outfalls 004 & 006 was added to address solids in these stormwater discharges.

- The unit 1,2 & 3 intake screen wash return discharges have been relocated from outfall 001 to new outfalls 008, 009 & 010

- Monitoring for ammonia was added at outfall 01D.

- The limit for total residual chlorine at outfall 001 has been reduced from 0.2 mg/l to 0.13 mg/l based upon the water quality evaluation. An interim compliance limit of 0.2 mg/l will be allowed until October 31, 2007 while the permittee evaluates the operational changes necessary to comply with the 0.13 mg/l final limit.

- Monitoring requirements and limits for hydrostatic tank testing waters have been revised to reflect current practice. Action limits have been replaced with discharge limits for total chlorine residual, benzene, ethylbenzene, toluene and xylene.

- Additional Requirement 11 was added to require a short term monitoring program for mercury in stormwater from outfall 007.

Biological - Best Technology Available

- Installation of variable speed pumps and ancillary equipment at Ravenswood Units 1, 2 and 3 that will allow for the reduction in cooling water use.

- Scheduling of a planned outage process that will require pumps to be shut down to reduce impingement and entrainment.

- Upgrades to the existing traveling intake screens as Ravenswood units 1, 2 and 3 to allow continuous operation of all traveling intake screens to increase impingement survival.

- Continued use of the Department approved, low stress fish return lines.

Impact Analysis

As indicated above, the Department is proposing to modify the effluent limits and biological requirements of the SPDES permit for the Ravenswood Generating Station. The changes to the water quality portion of the permit including changes in monitoring frequency, additional monitoring requirements and the addition/deletion of outfalls are primarily administrative changes to ensure the permit is consistent with existing requirements and that the permit reflects actual existing operations. For total residual chlorine, the Department is reducing the effluent limitation from .2 mg/l to .13 mg/l. This modification is based on a water quality assessment of the receiving waterbody. The reduced effluent limitation will reduce the overall amount of chlorine discharged to the East River and thus, will reduce the impact of the facility on the resource.

The Department is also proposing the addition of biological requirements. The Department is proposing these conditions to ensure the facility operates in accordance with 6 NYCRR Part 704.5 and Section 316(b) of Clean Water Act. These regulations require that facility minimize impacts from impingement and entrainment on aquatic organisms from the cooling water intake. SEQR has similar requirements in that a project sponsor must minimize impacts to the maximum extent practicable. Further discussion of the measures to be employed to minimize impacts from the facility's cooling water intake structure is provided below.

First, the facility already currently employs a fish-friendly return system to increase the survivability of fish that become impinged on the screen. The current permit modification also requires the installation of variable speed pumps on each unit. The installation of variable speed pumps will allow for the reduction in cooling water use. In addition, the draft permit requires upgrades to the traveling screens on all the units. The improvements will allow for the continuous use of the screens and thereby increase the impingement survival. The draft permit also requires the scheduling of a planned outage process. The facility operator must also propose additional measures to reduce impingement.

All of the above measures will result in the reduction of impingent mortality by 90% and entrainment mortality by 65%. These reductions will result in positive environmental benefits to the aquatic resources of the East River. Further, none of the proposed measures require the physical disturbance of either land or the river bed. The proposed measures will also not impact the water column or any benthic habitat.

Based on all of the above the Department has determined the proposed action will not have a significant impact on the environment.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES) DISCHARGE PERMIT

4/19/07

Industrial Code:	4911	SPDES Number:	NY- 0005193
Discharge Class (CL):	03	DEC Number:	2-6304-00024
Toxic Class (TX):	01	Effective Date (EDP):	May 1, 2007
Major Drainage Basin:	17	Expiration Date (ExDP):	April 30, 2012
Sub Drainage Basin:	02	Modification Dates (EDPM):	
Water Index Number:	ER (0.3 - 10.1)		
Compact Area:	IEC		

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: **KeySpan Generation, LLC** Attention: **Robert D. Teetz**
Street: **175 East Old Country Road**
City: **Hicksville** State: **NY** Zip Code: **11801**
is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: **Ravenswood Power Station**
Location (C,T,V): **Long Island City** County: **Queens**
Facility Address: **38-54 Vernon Boulevard**
City: **Long Island City** State: **NY** Zip Code: **11101**
NYTM -E: NYTM - N:
From Outfall No.: **001** at Latitude: **40 ° 45 ′ 31 ″** & Longitude: **73 ° 56 ′ 54 ″**
into receiving waters known as: **East River** Class: **I**
and; (list other Outfalls, Receiving Waters & Water Classifications)
01A, 01C, 01D, 01E, 01F, 01G, 01H, 002, 004, 006, 007, 008, 009 & 010 East River Class I

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: **KeySpan Corporation**
Street: **175 East Old Country Road**
City: **Hicksville** State: **NY** Zip Code: **11801**
Responsible Official or Agent: **Timothy Curt** Phone: **516-545-2559**

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

Bureau of Water Permits
RWM, Reg.2
RPA, Reg 2
EPA Region II - Jeffery Gratz
EPA Region II - J. Chan-Chen
H. Golub, IEC

Permit Administrator: William R. Adriance

Address: 625 Broadway
Albany NY 12233-1750

Signature: William R. Adriance Date: 4/20/07

ADDITIONAL OUTFALL LOCATION INFORMATION

OUTFALL	DESCRIPTION	LATITUDE	LONGITUDE
01A*	Floor Drains and Fuel Oil Heating System Condensate	40° 45' 31"	73° 56' 54"
01C*	Yard and Roof Drains	40° 45' 38"	73° 56' 54"
01D*	Unit 40 Stormwater, Floor Drains, Air Cooled Condenser Wash Water, Boiler Blowdown, Ion Exchange Regeneration Discharge & Reverse Osmosis Reject Water	40° 45' 38"	73° 56' 54"
01E*	Boiler Make-up Water Carbon Filter Backwash	40° 45' 32"	73° 56' 49"
01F*	Boiler Make-up Water Prefilter Backwash	40° 45' 32"	73° 56' 49"
01G*	Units 10, 20 & 30 Boiler Blowdown	40° 45' 32"	73° 56' 49"
01H*	Boiler Make-up Water Demineralizer Regeneration	40° 45' 32"	73° 56' 49"
002	Stormwater	40° 45' 40"	73° 56' 47"
004	Rainey Tank Farm - Containment Vault and Stormwater	40° 45' 48"	73° 56' 40"
006	Stormwater and Combustion Turbine Dump Tanks	40° 45' 44"	73° 56' 43"
007	Stormwater from Old Settling Ponds	40° 45' 32"	73° 56' 53"
008	Unit 10 Screen Wash Return	40° 45' 33"	73° 56' 50"
009	Unit 20 Screen Wash Return	40° 45' 35"	73° 56' 49"
010	Unit 30 Screen Wash Return	40° 45' 37"	73° 56' 48"

Notes: *Outfalls 01A, 01C, 01D, 01E, 01F, 01G & 01H all combine with the condenser cooling water to discharge via Outfall 001.

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP).

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.		

PARA-METER	EFFLUENT LIMIT	PRACTICAL QUANTITATION LIMIT (PQL)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based standards, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the analytical method specified in the permit shall be used to monitor the amount of the pollutant in the outfall to this level, provided that the laboratory analyst has complied with the specified quality assurance/quality control procedures in the relevant method. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This PQL can be neither lowered nor raised without a modification of this permit.	Type I or Type II Action Levels are monitoring requirements, as defined below in Note 2, that trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, Temperature, concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Note 1: DAILY DISCHARGE.: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day.

DAILY MAX.: The highest allowable daily discharge. DAILY MIN.: The lowest allowable daily discharge.

DAILY AVG. or 30 DAY ARITHMETIC MEAN (30 day average).: The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week.

30 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

7 DAY GEOMETRIC MEAN: The highest allowable geometric mean of daily discharges over a calendar week.

RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown.

Note 2: ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards. TYPE I: The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results in excess of the stated Action Level. TYPE II: The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results that show the stated action level exceeded for four of six consecutive samples, or for two of six consecutive samples by 20 % or more, or for any one sample by 50 % or more.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Main Discharge (See footnote 1)	East River	EDP	ExDP

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	6

PARAMETER	COMPLIANCE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Daily Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			MGD	Hourly	Pump Log	1
Discharge Temperature	NA	104.2			°F	Continuous	Recorder	2,3,6
Intake-Discharge Temperature Difference	NA	23.0			°F	Continuous	Recorder	3
Net Addition of Heat	NA	10.7 x 10E9			BTU/Hr	Monthly	Calculation	
Total Residual Chlorine	NA	0.13			mg/l	Continuous (see footnote 8)	Grab	4,5,6, 7 & 8

Footnote 1 Main Discharge Outfall 001 includes condenser cooling water and discharges from outfalls 01A, 01C, 01D, 01E, 01F, 01G and 01H.

2 Biological Monitoring Requirement #7 "Thermal Discharge" may result in a determination regarding the Daily Max. Discharge Temperature. This determination may result in the need to modify the permit to adjust the Daily Max. Discharge Temperature and net additional heat discharged.

3 These limitations may be exceeded during periods when one or more condensing units are operating with only one circulating water pump (per unit), due to pump breakdown, routine maintenance, forced outage or other technical problems, (e.g., equipment failure). In the event of pump breakdown, the permittee shall take corrective action as soon as possible. Where possible, routine pump maintenance resulting in these limitations being exceeded, should be avoided during June-September. The permittee shall indicate on the Discharge Reporting Form: (1) which circulating water pumps, if any, were not in operation; (2) the dates and times such pumps were not operating; (3) the reason(s) for such pumps not operating; and (4) the period(s) (dates and times) during which these limitations were exceeded. In no case shall these limitations be exceeded more than 5% of the time during the operating year.

4 The period of chlorination shall be limited to two hours per day per condenser unit. The individnal units shall be treated separately.

5 Monitoring is only reqnired during the period of condenser chlorine treatments and discharge.

6 Samples for monitoring pH, temperature and chlorine are to be collected within the discharge tunnels.

7 An interim Total Residual Chlorine compliance limit of 0.2 mg/l will be allowed until October 31, 2007 while the permittee evaluates the operational changes necessary to comply with the 0.13 mg/l final limit.

8 The permittee shall install a continuous total residual chlorine monitor by May 15, 2008. Total residual chlorine monitoring prior to May 1, 2008 shall be collected and analyzed at a frequency of 5 daily samples per week during the periods of condenser chlorine treatments. During this interim period the daily total residual chlorine samples must be collected and be representative of the discharge from a condenser treatment of unit 30 if this unit is operating or otherwise be collected and be representative of the discharge from condenser treatments of either units 10 or 20 if unit 30 is not operation.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01A	Floor Drains and Fuel Oil Heating System Condensate	East River via Outfall 001	EDP	ExDP

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Monthly	Grab	9

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPM	Monthly	Calculated	9
Oil & Grease	NA	15			mg/l	Weekly	Grab	9
Suspended Solids, Total	30	100			mg/l	Monthly	Grab	9

Footnote 9 Samples to be taken from the Oil/Water Separator discharge prior to any mixing with other discharges.

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01D	Unit 40 Stormwater, Floor Drains, Air Cooled Condenser Wash Water, Boiler Blowdown, Ion Exchange Regeneration & Reverse Osmosis Reject Water	East River via Outfall 001	EDP	ExDP

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	10

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Weekly	Calculated	10
Oil & Grease	NA	15			mg/l	Weekly	Grab	10
Suspended Solids	NA	100			mg/l	Weekly	Grab	10
Ammonia	NA	monitor			mg/l	Monthly	Grab	10

Footnote 10 Samples to be taken from the Outfall 01D discharge prior to any mixing with other discharges.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01E, 01F & 01H	Boiler Make-up Water Carbon Filter Backwash (01E), Pre-Filter Backwash (01F) and Demineralizer Regeneration (01H)	East River via Outfall 001	EDP	ExDP

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Monthly	Calculated	11
Suspended Solids, Total	NA	100			mg/l	Monthly	Grab	11

Footnote 11 Samples to be collected from each separate discharge outfall.

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01G	Units 10, 20 & 30 Boiler Blowdown	East River via Outfall 001	EDP	ExDP

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Monthly	Calculated	12
Oil & Grease	NA	15			mg/l	Semi-Annual	Grab	12
Suspended Solids	NA	50			mg/l	Monthly	Grab	12
Ammonia	NA	monitor			mg/l	Monthly	Grab	12

Footnote 12 Samples to be taken from the Outfall 01G discharge prior to any mixing with other discharges.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
004	Rainy Tank Farm - Underground Fuel Tank Containment Vault and Stormwater	East River	EDP	ExDP

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	2/Month	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Monthly	Calculated	
Oil & Grease	NA	15			mg/l	2/Month	Grab	
Total Suspended Solids	NA	50			mg/l	2/Month	Grab	
Aroclor 1254	NA	0.3			µg/l	Quarterly	Grab	13
Aroclor 1254	NA	monitor			g/day	Quarterly	Calculated	13
Aroclor 1260	NA	0.3			µg/l	Quarterly	Grab	13
Aroclor 1260	NA	monitor			g/day	Quarterly	Calculated	13
Benzene	NA	50			µg/l	Quarterly	Grab	
Ethylbenzene	NA	50			µg/l	Quarterly	Grab	
Toluene	NA	50			µg/l	Quarterly	Grab	
Xylene, Total	NA	50			µg/l	Quarterly	Grab	

Footnote 13 a. The permittee must monitor this discharge for PCBs using USEPA laboratory method 608. The laboratory must make all reasonable attempts to achieve an MDL of 0.065 µ g/l or less per aroclor. Monitoring requirements may be modified in the future if the Department approves a method different from 608.

b. Non-detect at the MDL is the discharge goal. The permittee shall report all values above the Minimum Detection Level (MDL) (0.065 µg/l per Aroclor). If the level of any Aroclor is above the MDL, the permittee must evaluate the treatment system and identify the cause of the detectable level of PCBs in the discharge. Following three consecutive quarterly periods that include analytical results above the MDL (0.065 µg/l), the permittee shall prepare an approvable report identifying the measures undertaken to eliminate the detections and proposed additional steps to be taken to eliminate the recurrence of such detections. This report shall be submitted to the Department within 28 days following receipt of sampling results from the third monitoring period.

c. If the Department determines that effluent monitoring results above the MDL (0.065 ug/l) can be prevented by implementation of additional measures as proposed by the permittee, the permittee shall implement such additional measures.

d. The treatment technology for this discharge constitutes the maximum feasible treatment technology for treatment of PCBs. As treatment technology improvements become available, the permittee shall, at its own initiative or the Department's request, review the available technology and submit for Department approval, plans to improve the treatment technology and/or Best Management Practices employed to remove maximum feasible amount of PCBs from the wastewater discharge.

e. This limit is a phased Total Maximum Daily Loading limit, prepared in accordance with 6 NYCRR 702.16(b).

f. If a discharge limitation (0.30 µg/l) for any Aroclor is exceeded the measurement frequency for all Aroclors shall be monthly until a period of eight (8) consecutive monthly sampling events shows no discharges above the MDL (0.065 µg/l) at which point quarterly monitoring may resume.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
006	Gas Turbine Site - Combustion Turbine Dump Tank and Stormwater from Secondary Containment & Roof Drains	East River	EDP	ExDP

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Monthly	Calculated	
Oil & Grease	NA	15			mg/l	Weekly	Grab	
Total Suspended Solids	NA	50			mg/l	Weekly	Grab	
Benzene	NA	50			µg/l	Quarterly	Grab	
Ethylbenzene	NA	50			µg/l	Quarterly	Grab	
Toluene	NA	50			µg/l	Quarterly	Grab	
Xylene, Total	NA	50			µg/l	Quarterly	Grab	

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
007	Stormwater from Old Settling Ponds	East River	EDP	ExDP

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Each Discharge	Calculated	
Oil & Grease	NA	15			mg/l	Each Discharge	Grab	14
Total Suspended Solids	NA	50			mg/l	Each Discharge	Grab	14
Benzene	NA	50			µg/l	Each Discharge	Grab	14
Ethylbenzene	NA	50			µg/l	Each Discharge	Grab	14
Toluene	NA	50			µg/l	Each Discharge	Grab	14
Xylene, Total	NA	50			µg/l	Each Discharge	Grab	14

Footnote 14 Samples to be taken prior to any mixing with other discharges.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01C	Stormwater	East River via Outfall 001	EDP	ExDP
002	Stormwater	East River	EDP	ExDP
008, 009 & 010	Units 10, 20 & 30 Screen Wash Return	East River	EDP	ExDP
NO MONITORING REQUIRED				

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
NA	Tank Test Water (See footnote 14)	Long Island Sound	EDP	ExDP

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	NA	Monitor			GPD	Each Discharge	Instantaneous	15
Oil & Grease	NA	15			mg/l	Each Discharge	Grab	15
Chlorine, Total Residual	NA	0.1			mg/l	Each Discharge	Grab	15,16
Benzene	NA	20			µg/l	Each Discharge	Grab	15
Toluene	NA	20			µg/l	Each Discharge	Grab	15
Xylenes	NA	20			µg/l	Each Discharge	Grab	15
Ethylbenzene	NA	20			µg/l	Each Discharge	Grab	15

Footnote 15 **Tank Test Water Discharge Requirements**
Tanks being hydrostatically tested must be free of product and cleaned. The Regional Water Manager must be informed at least twn business days prior to the discharge of tank test water.

Any discharge of tank test water must be done under the direct supervision of plant personnel. Samples from the tank must be taken prior to discharge from various levels within the tank (top, middle, bottom). If sampling shows conformance with effluent limitations, discharge may be initiated. If effluent limitations are not attained, additional measures must be implemented to attain compliance prior to initiation of discharge.

A visual check of the discharge must be made for the presence of oil and floating substances. Data associated with tank test water shall be kept, along with log of visual observations, for a period of five years and be made available to Department personnel upon request.

The discharge of tank test water must be done in a manner that minimizes erosion of soil or sediment and does not cause flooding in the area of discharge. It must be done in a manner that minimizes the impact on the fisheries.

16 Required when a chlorinated supply such as that from a municipal system is used for tank testing purposes.

A. ADDITIONAL REQUIREMENTS

1. There shall be no discharge of the following wastes to surface waters or groundwater of the State; fly ash and bottom ash sluice wastes or evaporator blowdown. Boiler and metal cleaning wastewater shall be disposed of by incineration in the plant boilers in accordance with the facility's Title V air permit or be collected and transported for treatment and disposal by an wastewater treatment facility capable of treating these wastewaters.

2. The permittee shall submit on a yearly basis a report to the Department's offices in Albany and Region 2 by the 28th of the month following the end of the annual period. This annual report must include:

   a. Daily minimum, average and maximum station electrical output;

   b. Daily minimum, average and maximum cooling water usage (directly or indirectly measured or calculated);

   c. Daily minimum, average and maximum intake and discharge temperatures;

   d. Values reported in a, b and c shall be based upon measurements taken on an hourly basis. Temperature readings may be obtained from a continuous recording device. This requirement is not a substitute for other monitoring requirements.

3. There shall be no visible sheen of oil and grease from discharges at outfalls 001, 002, 004, 006 & 007.

4. All water treatment chemicals (e.g., corrosion inhibitors, antifouling additives, slimicides and biocides) identified in the August 31, 2005 submittal are approved for use. Approval is granted only for uses which do not contravene New York State Water Quality Standards. The permittee must comply with Generic Water Treatment Chemical (WTC) Usage Requirements including annual reporting and other requirements identified on page 3 of the WTC Usage Notification form available at the NYSDEC website: www.dec.state.ny.us/website/des/permits/olpermits/index.html. If the use of any new water treatment chemicals is intended, prior notification and approval must occur prior to use.

5. In all instances chlorine shall be:

   a. kept to the minimum amount which will maintain plant operating efficiency; and

   b. eliminated when intake water temperature is below 40 °F unless failure to apply chlorine below 40 °F is shown to adversely affect plant operating efficiency.

6. Discharge from the emergency flood pumps for Units 10, 20 and 30 to the main discharge outfall 001 will be allowed under this permit provided that the permittee:

   a. collect a grab sample of the flood pump discharge for each unit and each discharge event to be analyzed for pH, total suspended solids and oil & grease;

   b. notify regional water staff within 1 business day of operation of the flood pumps;

   c. send copies of the monitoring results to regional water staff upon receipt with a cover letter summarizing operation of the emergency flood pumps for that event; and

   d. provide a written description of the best management practices that will be used to minimize the discharge of contaminants during emergency flood pump operation in the facility's Best Management Plan required under condition C.2 of the SPDES permit.

7. All thermal discharges to the waters of the State shall assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water as provided in 6NYCRR Part 704.1(a). The thermal plume resulting from this facility's discharge may not exceed 90°F (Part 704.2(b)(5)(i) of the State Water Quality Thermal Criteria) except within a designated mixing zone area of 2,580,000 sq. ft. (60 acres).

8. Notwithstanding any other requirements in this permit, the permittee shall also comply with all of the Water Quality Regulations promulgated by the Interstate Environmental Commission, including Section 1.01 and 2.05(f) as they relate to oil and grease.

9. Dilution is prohibited as a substitute for treatment. Except where expressly authorized to do so by an applicable Categorical Standard or the Commissioner or his duly authorized representative, no Industrial User shall ever increase the use of process water or, in any other way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a permit effluent limitation requirement.

10. There shall be no discharge to groundwaters or surface waters of oil tank bottom water, PCBs, and/or any industrial or manufacturing process wastewater effluents from this facility. Included in the effluents categorized as industrial process effluents are wastewater resulting from vehicle maintenance or washing operations. Washing operations are those cleaning operations which involve the use of detergents or other emulsifying chemicals.

    Tank bottoms water, vehicle maintenance and washing wastewater are not likely to be effectively treated by gravity separation alone and therefore are not permitted to be discharged. After review of an Engineering Submission for the treatment of tank bottoms, maintenance and/or washing wastewater, these prohibitions may be altered

11. The permittee shall conduct a short-term monitoring program for mercury in the discharge at outfall 007. The monitoring program shall consist of three separate sampling events when stormwater is being discharged from the abandoned settling ponds. A composite sample made up of at least 3 grab samples shall be collected for each sampling event. Samples shall be analyzed using EPA Method 1631. Sampling and analytical results, along with the average flow for each sampling day, shall be submitted, by EDP + 1 year, to Al Fuchs, Chief, Wastewater Permits - South Section, 625 Broadway, Albany, NY, 12233-3505 and the Regional Water Manager, Region 2, One Hunters Point Plaza, 47-20 21st Street, Long Island City, New York 11101. [Note: Following review of these results, the Department may reopen the permit to add additional limts or action levels for these parameters.]

12. When conducting the periodic testing of the foam fire suppression system as required by the Fire Department of New York (FDNY) the permittee shall:

    a. notify regional water staff at least 3 business days prior to testing;

    b. direct all foam to a temporary containment system at the facility; and

    c. use best efforts to contain, collect and dispose of the foam.

B. BIOLOGICAL MONITORING REQUIREMENTS

All submissions under this section should provide :
Two (2) copies to the Steam Electric Unit Leader;
One (1) copy of the cover letter to the Division of Water
State Pollution Discharge Elimination System (SPDES)
Compliance Information Section; and
One (1) copy of the cover letter to the Regional Water Manager;
unless otherwise noted.

1. **Impingement Survival Study**
By EDP + 6 months, the permittee shall submit an approvable report of the results of 2006 impingement survival studies conducted under continuous intake screen operation at the Ravenswood Generating Station. The report shall describe the study methodology used and present results in terms of: 1) impingement survival for each species tested and, 2) a revised calculation of percent impingement mortality reduction from baseline level, for alternatives that include use of continuous operation of traveling intake screens.

2. **Best Technology Available**
The applicant is required to perform the following mitigation activities to achieve best technology available (BTA) for the cooling water intake at the Ravenswood Generating Station. Installation of all technologies and or operational measures required in this condition shall be completed by EDP + 5 years.

a. Installation of variable speed pumps and ancillary equipment at Ravenswood Units 10, 20 and 30 that will allow for a reduction in the volume of cooling water use;

b. Upgrades to the existing traveling intake screens at Ravenswood Units 10, 20 and 30 to allow for the continuous operation of all traveling intake screens to increase impingement survival;

c. Scheduling of a planned outage process that will require cooling water circulating pumps to be shut down to reduce the volume of cooling water use;

d. Continued use of the Department approved, low stress fish return lines, constructed at each unit in 2005, to return impinged fish directly to the East River; and

e. If necessary, installation of continuously operated Ristroph modified traveling screens or mitigation measures identified in the approved Supplemental Technology and Operation Review/Plan required in B.4(b).

3. **Performance Standards**

a. The technologies and operational procedures described in Condition B.2., Best Technology Available, must achieve a reduction in impingement mortality of 90% for all fish species combined and 90% for winter flounder alone from the full flow calculation baseline. Compliance with this performance standard shall be determined through the studies conducted under the Verification Monitoring Plan required in Condition B.5.

b. The technologies and operational procedures described in Condition B.2., Best Technology Available, must achieve a 65% reduction in entrainment from the full flow calculation baseline. Compliance with this performance standard shall be determined through the studies conducted under the Verification Monitoring Plan required in Condition B.5.

4. **Technology Installation and Operation Plan**

a. By EDP + 3 months, the permittee must submit an approvable Technology Installation and Operation Plan. This plan must include:

(1) A schedule for installing and implementing the technologies and/or operational measures in Condition B.2 (a) through (d) to meet the BTA requirements of 6 NYCRR Part 704.5 and 316(b) of the Clean Water Act; and

(2) The methodology for assessing the efficacy of these technologies and operational measures.

b. Within 15 months, after the implementation of all measures in conditions B.2 (a) through (d) on unit 30 at Ravenswood, but no later than EDP + 3.75 years, the permittee shall submit a Supplemental Technology and Operation Review/Plan identifying the level of reductions in impingement mortality attributable to the implementation of such measures and a projection as to whether the performance standards in B. 3. will be achieved once all units at the site are equipped and operated in accordance with the requirements of conditions B.2 (a) through(d).

If such projections indicate that the performance standards in condition B.3 will not be achieved, the permittee shall identify in the Supplemental Technology and Operation Review/Plan any additional measures needed to achieve a 90% reduction in impingement mortality from the full flow calculation baseline. The supplement shall contain a schedule for installing and implementing technologies and/or operational measures to achieve compliance with performance standards contained in condition B.3 (a) within the time frame required in condition B.2.

Upon receipt of Department approval, the permittee must implement the Technology Installation and Operation Plan and Supplemental Technology and Operation Review/Plan in accordance with the approved schedule. The Technology Installation and Operation Plan, the Supplemental Technology and Operation Review/Plan and the approved schedule will become enforceable conditions of this SPDES permit.

5. **Verification Monitoring Plan**

a. Within 3 months of the Department's approval of the Supplemental Technology and Operation Review/Plan described in Condition B.4 (b), the permittee must submit an approvable Verification Monitoring Plan. This plan must include details of procedures to confirm that the performance standards for reducing impingement and entrainment required by this permit in Condition B.3. are being achieved, and must include the following:

(1) Use of a five year averaging period to verify the full-scale performance of all BTA measures specified in Condition B.2. The average estimated reductions in impingement mortality and entrainment shall be based on:
i) a minimum two years of additional in-plant impingement and entrainment monitoring,
ii) existing in-plant impingement and entrainment monitoring data,
iii) actual water use at the station during the averaging period, and
iv) any other relevant information;

(2) A description of the frequency and duration of monitoring, the parameters to be monitored, and the basis for determining the parameters and the frequency and duration for monitoring;

(3) A schedule of implementation; and

(4) A draft proposed Standard Operation Procedure (SOP) that describes the sampling protocols for these monitoring studies.

The plan and SOP must be updated as required by the Department. Upon receipt of Department approval, the permittee must complete the Verification Monitoring Plan in accordance with the approved schedule. The Verification Monitoring Plan and approved schedule will become enforceable conditions of this SPDES permit.

b. A draft report shall be submitted to the Steam Electric Unit Leader no later than 18 months after the start of the monitoring program that summarizes the results of the first year of study.

c. Within 6 months of the completion of the Verification Monitoring Plan the permittee must submit an approvable report to the Steam Electric Unit Leader that demonstrates compliance with Condition B.3. of this permit and 316(b) of the Clean Water Act.

6. **Additional Reporting Requirements**

a. The permittee must maintain records of all data, reports and analysis pertaining to compliance with 6NYCRR Part 704 and Section 316(b) CWA for a period no less than 10 years from EDP.

b. The permittee must submit status reports at EDP + 2.5 years and EDP + 5 years. At a minimum, these status reports must include a description of the operational status of the facility during the preceding two years and compliance with Condition B.2. through B.5. of this permit.

7. **Thermal Discharge**

By EDP + 6 months, the permittee must submit an approvable thermal study plan designed to address issues regarding the thermal criteria contained in 6 NYCRR §704.

Thermal Criteria

The *Thermal Criteria Study Plan* must be designed to describe all applicable criteria contained in 6 NYCRR §704 and evaluate compliance with those criteria. The *Thermal Criteria Study Plan* must include study protocols, a schedule for conducting the studies, and the submission of approvable *Thermal Criteria Report*. The *Thermal Criteria Report* must include all information obtained from implementing the plan; provide a comparison of the applicable criteria to the varying operating conditions of the facility; document the Daily Maximum Discharge Temperature (as delineated on page 5 of 22 of this permit) the facility can discharge to meet all applicable criteria; and provide all assumptions, calculations, and models used in deriving the Daily Maximum Discharge Temperature.

Upon receipt of Department approval of the *Thermal Study Plan*, the permittee must complete the studies and submit the *Thermal Report* in accordance with the approved schedules.

8. The permittee shall comply with the provisions agreed to under Consent Order # R20000906-179 which are designed to study, and if necessary, mitigate biological impacts associated with the Ravenswood Generating Station condenser cooling water use.

9. Modification of the facility cooling water intake must not occur without prior Department approval. The permittee must submit written notification, including detailed descriptions and plans, to the NYSDEC Steam Electric Unit; the Director of the Bureau of Water Compliance Program; and both the Regional Permit Administrator and the Regional Water Engineer, Region 2, at least 60 days prior to any proposed change which would result in the alteration of the permitted operation, location, design, construction or capacity of the cooling water intake structure. The permittee must submit with the written notification a demonstration that the change reflects the best technology available for minimizing adverse environmental impacts pursuant to 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act. As determined by NYSDEC, a permit modification application in accordance with 6 NYCRR Part 621 may be required.

C. SPECIAL CONDITIONS - INDUSTRY BEST MANAGEMENT PRACTICES

1. **General** - The permittee shall develop, maintain, and implement a Best Management Practices (BMP) plan to prevent releases of significant amounts of pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and stormwater discharges including, but not limited to, drainage from raw material storage.

   The BMP plan shall be documented in narrative form and shall include the 13 minimum BMPs and any necessary plot plans, drawings, or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. A copy of the current BMP plan shall be submitted to the Department as required in item (2.) below and a copy must be maintained at the facility and shall be available to authorized Department representatives upon request.

2. **Compliance Deadlines** - The initial completed BMP plan shall be submitted **EDP + 6 months** to the Regional Water Manager. The BMP plan shall be implemented within 6 months of submission, unless a different time frame is approved by the Department. The BMP plan shall be reviewed annually and shall be modified whenever: (a) changes at the facility materially increase the potential for releases of pollutants, (b) actual releases indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. All BMP plan revisions (with the exception of SWPPPs - see item (4.B.) below) must be submitted to the Regional Water Manager within 30 days. Note that the permittee is not required to obtain Department approval of the BMP plan (or of any SWPPPs) unless notified otherwise. Subsequent modifications to or renewal of this permit does not reset or revise these deadlines unless a new deadline is set explicitly by such permit modification or renewal.

3. **Facility Review** - The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases.

   The review shall address all substances present at the facility that are identified in Tables 6-10 of SPDES application Form NY-2C (available at *http://www.dec.state.ny.us/website/dcs/permits/olpermits/form2c.pdf*) or that are required to be monitored for by the SPDES permit.

4. A. **13 Minimum BMPs** - Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of stormwater elements of the BMP is available in the September 1992 manual *Storm Water Management for Industrial Activities*, EPA 832-R-92-006 (available from NTIS, 703-487-4650, order #PB 92235969 or at http://cfpub.epa.gov/npdes/stormwater/swppp-msep.cfm). As a minimum, the plan shall include the following BMPs:

1. BMP Pollution Prevention Team
2. Reporting of BMP Incidents
3. Risk Identification & Assessment
4. Employee Training
5. Inspections and Records
6. Security
7. Preventive Maintenance
8. Good Housekeeping
9. Materials/Waste Handling, Storage, & Compatibility
10. Spill Prevention & Response
11. Erosion & Sediment Control
12. Management of Runoff
13. Street Sweeping

Note that for some facilities, especially those with few employees, some of the above BMPs may not be applicable. It is acceptable in these cases to indicate "Not Applicable" for the portion(s) of the BMP Plan that do not apply to your facility, along with an explanation.

B. **Stormwater Pollution Prevention Plans (SWPPPs) Required for Discharges of Stormwater From Construction Activity to Surface Waters** - As part of BMP #11, a SWPPP shall be developed prior to the initiation of any site disturbance of one acre or more of uncontaminated area. Uncontaminated area means soils or groundwater which are free of contamination by any toxic or non-conventional pollutants identified in Tables 6-10 of SPDES application Form NY-2C. Disturbance of any size contaminated area(s) and the resulting discharge of contaminated stormwater is not authorized by this permit unless the discharge is under State or Federal oversight as part of a remedial program or after review by the Regional Water Manager; nor is such discharge authorized by any SPDES general permit for stormwater discharges. SWPPPs are not required for discharges of stormwater from construction activity to groundwaters.

The SWPPP shall conform to the *New York Standards and Specifications for Erosion and Sediment Control* and *New York State Stormwater Management Design Manual*, unless a variance has been obtained from the Regional Water Manager, and to any local requirements. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity **at least 30 days prior to soil disturbance**. The SWPPP shall also be submitted to the Regional Water Manager if contamination, as defined above, is involved and the permittee must obtain a determination of any SPDES permit modifications and/or additional treatment which may be required prior to soil disturbance. Otherwise, the SWPPP shall be submitted to the Department only upon request. When a SWPPP is required, a properly completed *Notice of Intent* (NOI) form shall be submitted (available at *www.dec.state.ny.us/website/dow/toolbox/swforms.html*) prior to soil disturbance. Note that submission of a NOI is required for informational purposes; the permittee is not eligible for and will not obtain coverage under any SPDES general permit for stormwater discharges, nor are any additional permit fees incurred. SWPPPs must be developed and submitted for subsequent site disturbances in accordance with the above requirements. The permittee is responsible for ensuring that the provisions of each SWPPP is properly implemented.

5. **Required Sampling For "Hot Spot" Identification** - Development of the BMP plan shall include sampling of waste stream segments for the purpose of pollutant "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines etc.) which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.

6. **Facilities with Petroleum and/or Chemical Bulk Storage (PBS and CBS) Areas** - Compliance must be maintained with all applicable regulations including those involving releases, registration, handling and storage (6 NYCRR 595-599 and 612-614). Stormwater discharges from handling and storage areas should be eliminated where practical.

A. Spill Cleanup - All spilled or leaked substances must be removed from secondary containment systems as soon as practical and for CBS storage areas within 24 hours unless written authorization is received from the Department. The containment system must be thoroughly cleaned to remove any residual contamination which could cause contamination of stormwater and the resulting discharge of pollutants to waters of the State. Following spill cleanup the affected area must be completely flushed with clean water three times and the water removed after each flushing for proper disposal in an on-site or off-site wastewater treatment

plant designed to treat such water and permitted to discharge such wastewater. Alternately, the permittee may test the first batch of stormwater following the spill cleanup to determine discharge acceptability. If the water contains no pollutants it may be discharged. Otherwise it must be disposed of as noted above. See *Discharge Monitoring* below for the list of parameters to be sampled for.

B. Discharge Operation - Stormwater must be removed before it compromises the required containment system capacity. Each discharge may only proceed with the prior approval of the permittee staff person responsible for ensuring SPDES permit compliance. Bulk storage secondary containment drainage systems must be locked in a closed position except when the operator is in the process of draining accumulated stormwater. Transfer area secondary containment drainage systems must be locked in a closed position during all transfers and must not be reopened unless the transfer area is clean of contaminants. Stormwater discharges from secondary containment systems should be avoided during periods of precipitation. A logbook shall be maintained on site noting the date, time and personnel supervising each discharge.

C. Discharge Screening - Prior to each discharge from a secondary containment system the stormwater must be screened for contamination*. All stormwater must be inspected for visible evidence of contamination. Additional screening methods shall be developed by the permittee as part of the overall BMP Plan, e.g. the use of volatile gas meters to detect the presence of gross levels of gasoline or volatile organic compounds. If the screening indicates contamination, the permittee must collect and analyze a representative sample** of the stormwater. If the water contains no pollutants it may be discharged. Otherwise it must either be disposed of in an on site or off site wastewater treatment plant designed to treat and permitted to discharge such wastewater or the Regional Water Manager can be contacted to determine if it may be discharged without treatment.

D. Discharge Monitoring - Unless the discharge from any bulk storage containment system outlet is identified in the SPDES permit as an outfall with explicit effluent and monitoring requirements, the permittee shall monitor the outlet as follows:

(i) *Bulk Storage Secondary Containment Systems:*

(a) The volume of each discharge from each outlet must be monitored. Discharge volume may be calculated by measuring the depth of water within the containment area times the wetted area converted to gallons or by other suitable methods. A representative sample shall be collected of the first discharge* following any cleaned up spill or leak. The sample must be analyzed for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(b) Every fourth discharge* from each outlet must be sampled for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(ii) *Transfer Area Secondary Containment Systems:*

The first discharge* following any spill or leak must be sampled for flow, pH, the substance(s) transferred in that area and any other pollutants the permittee knows or has reason to believe are present**.

E. Discharge Reporting - Any results of monitoring required above, excluding screening data, must be submitted to the Department by appending them to the corresponding DMR. Failure to perform the required discharge monitoring and reporting shall constitute a violation of the terms of the SPDES permit.

F. Prohibited Discharges - **In all cases, any discharge which contains a visible sheen, foam, or odor, or may cause or contribute to a violation of water quality is prohibited.** The following discharges are prohibited unless specifically authorized elsewhere in this SPDES permit: spills or leaks, tank bottoms, maintenance wastewaters, wash waters where detergents or other chemicals have been used, tank hydrotest and ballast waters, contained fire fighting runoff, fire training water contaminated by contact with pollutants or containing foam or fire retardant additives, and unnecessary discharges of water or wastewater into secondary containment systems.

* Discharge includes stormwater discharges and snow and ice removal. If applicable, a representative sample of snow and/or ice should be collected and allowed to melt prior to assessment.

** If the stored substance is gasoline or aviation fuel then sample for oil & grease, benzene, ethylbenzene, naphthalene, toluene and total xylenes (EPA method 602). If the stored substance is kerosene, diesel fuel, fuel oil, or lubricating oil then sample for oil & grease and polynuclear aromatic hydrocarbons (EPA method 610). If the substance(s) are listed in Tables 6-8 of SPDES application form NY-2C then sampling is required. If the substance(s) are listed in NY-2C Tables 9-10 sampling for appropriate indicator parameters may be required, e.g. BOD5 or toxicity testing. Contact the facility inspector for further guidance. In all cases flow and pH monitoring is required.

DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c), (f) and (g) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.

(b) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

OR:

NYSDEC Division of Water Regional Office Address :

NYSDEC Division of Water Regional Phone: ( ) - ### -####

(e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of three years.

(f) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a) of the ECL, but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.

(g) All requirements of the Discharge Notification Act, including public repository requirements, are waived for any outfall meeting any of the following circumstances, provided Department notification is made in accordance with (h):

(i) such sign would be inconsistent with any other state or federal statute;

(ii) the Discharge Notification Requirements contained herein would require that such sign could only be located in an area that is damaged by ice or flooding due to a one-year storm or storms of less severity;

(iii) instances in which the outfall to the receiving water is located on private or government property which is restricted to the public through fencing, patrolling, or other control mechanisms. Property which is posted only, without additional control mechanisms, does not qualify for this provision;

(iv) instances where the outfall pipe or channel discharges to another outfall pipe or channel, before discharge to a receiving water; or

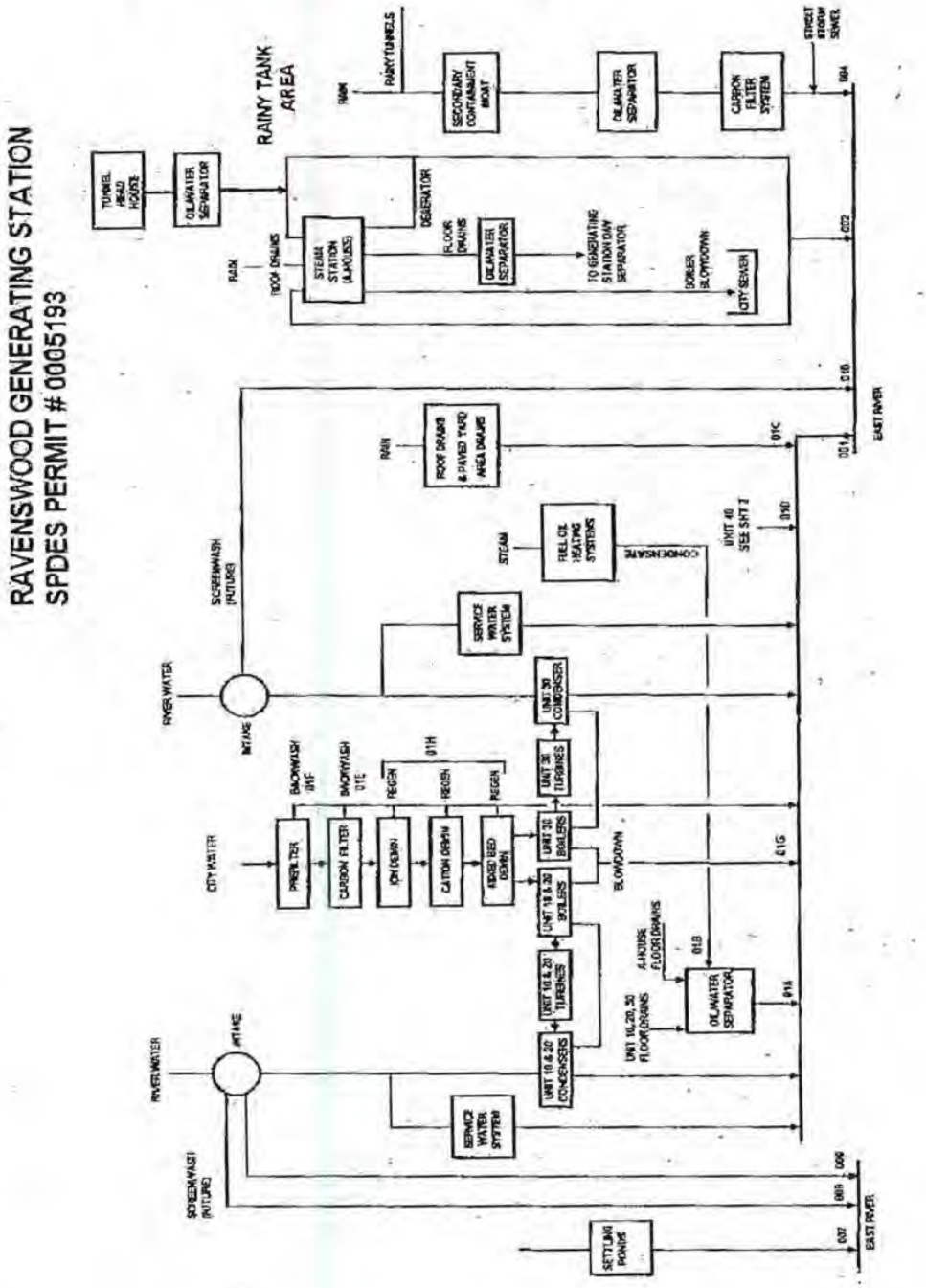
(v) instances in which the discharge from the outfall is located in the receiving water, two-hundred or more feet from the shoreline of the receiving water.

(h) If the permittee believes that any outfall which discharges wastewater from the permitted facility meets any of the waiver criteria listed in (g) above, notification (form enclosed) must be made to the Department's Bureau of Water Permits, Central Office, of such fact, and, provided there is no objection by the Department, a sign and DMR repository for the involved outfall(s) are not required. This notification must include the facility's name, address, telephone number, contact, permit number, outfall number(s), and reason why such outfall(s) is waived from the requirements of discharge notification. The Department may evaluate the applicability of a waiver at any time, and take appropriate measures to assure that the ECL and associated regulations are complied with.

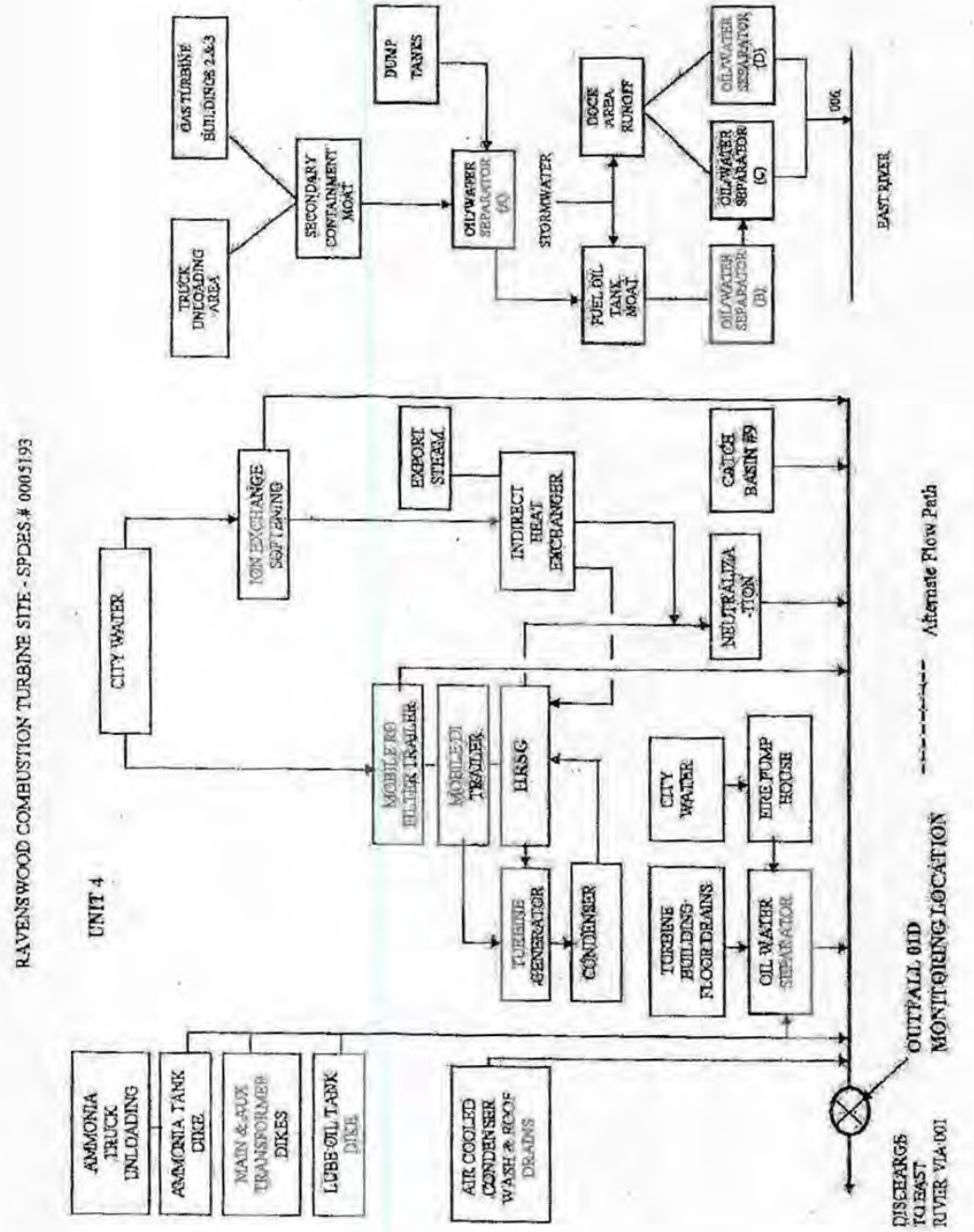
(i) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below and on the following page:



MONITORING LOCATIONS (continued)



RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

a) The permittee shall also refer to 6 NYCRR Part 750-1.2(a) and 750-2 for additional information concerning monitoring and reporting requirements and conditions.

b) The monitoring information required by this permit shall be summarized, signed and retained for a period of five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[x] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Manager at the address specified below. The annual report is due by February 1 and must summarize information for January to December of the previous year in a format acceptable to the Department.

[ ] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[ ] Regional Water Manager and/or [ ] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:

Department of Environmental Conservation
Division of Water
Bureau of Watershed Compliance Programs
625 Broadway
Albany, New York 12233-3506

Phone: (518) 402-8177

Send the **first copy** (second sheet) of each DMR page to:

Department of Environmental Conservation
Regional Water Manager, Region 2
One Hunters Point Plaza
47-20 21st Street
Long Island City, New York 11101

Phone: (718) 482-4930

c) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2.

d) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

e) If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording of the data on the Discharge Monitoring Reports.

f) Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

g) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.

h) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller Empire State Plaza, Albany, New York 12201.

KEYSPAN

175 East Old Country Road
Hicksville, New York 11801-4280

August 1, 2007

Mr. Roy A. Jacobson
Steam Electric Unit Leader
NYSDEC, Division of Fish Wildlife & Marine Resources
Bureau of Habitat, 5th Floor
625 Broadway
Albany, NY 12233-4756

Re: KeySpan Ravenswood Power Station
SPDES No. 0005193

Dear Mr. Jacobson:

The Ravenswood SPDES permit requires the submittal of a Technology Installation and Operation Plan by August 1, 2007. Under the Biological Monitoring Requirements, Technology Installation and Operation Plan section (B.4) the permit requires "a) 1. a schedule for installing and implementing the technologies and/or operational measures...." to meet specified technologies. The requirement is met via the attached the draft "Ravenswood Power Station Operation of CWIS" and schedules for the design, procurement and installation of equipment at Ravenswood Units 10, 20 and 30.

Section a.(2) requires a description of the "Methodology for Assessing the Efficacy of Technologies and Operational Measures". That is also attached for your review.

If you have any questions please feel free to contact me at 516-545-2556 or via e mail at ccorrado@keyspanenergy.com.

Best Regards,

Christopher Corrado
Environmental Engineering & Compliance Department

cc: Regional Water Manager, DEC Region 2 (w/o Attachments)
SPDES Compliance Information Section

	DRAFT Ravenswood Power Station Operation of CWIS	Doc. # Revision: 0 July 2007 Page 1 of 2

1.0 Purpose

This procedure is issued to set out the parameters by which the cooling water intake system (CWIS) is operated. The Station's State Pollutant Discharge Elimination System (SPDES) permit issued by the New York State Department of Environmental Conservation requires that technologies be installed and that operational measures be implemented to reduce the percentage of fish, eggs and larvae impinged and/or entrained by the CWIS. This procedure outlines those technologies and measures.

2.0 Scope

This procedure is applicable to components of the CWIS at Ravenswood Unit 10, 20 and 30, specifically the traveling screens, screen wash pumps, circulating water pumps and fish return lines.

3.0 Operation of Variable Speed Pumps (VSP)

The circulating water pumps are to be modified to permit variable speed operation. The VSPs shall be operated to reduce flow during peak entrainment season and as needed to achieve compliance with SPDES permit performance standards.

3.1 The drive motors shall be operated in variable speed drive at less than maximum unit load. Factors determining the speed of the drive shall include condenser back pressure, temperature at the discharge, difference in temperature between the intake and discharge (delta T), density of aquatic life, etc.

3.2 To further minimize the water flow the following rules shall apply when the Unit shuts down for more than 3 days. Once the Unit is off-line, one circulator shall be shut down completely. The second pump shall then be operated at lowest speed practicable in accordance with Section 3.1 until temperatures decrease to safe and acceptable levels in plant equipment such as the turbine exhaust hood. At such time the pump shall be turned off.

4.0 Operation of Traveling Screens

The SPDES permit requires the intake screens to operate continuously when the circulating pumps are operating. This requirement includes operation of the screen wash pumps and spray system. The screens shall operate continuously except for the following circumstances.

4.1 During the performance of routine maintenance activities on the traveling screen, drives, motors, pumps, spray nozzles and ancillary and associated equipment and facilities. Maintenance shall be performed as quickly as practicable and the screen returned to service without unreasonable delay.

4.2 During the performance of repairs on the traveling screen, drives, motors, pumps, spray nozzles and ancillary and associated equipment and facilities. Repairs shall be performed as quickly as practicable and the screen returned to service without unreasonable delay.

5.0 Use of the Fish Return System

The fish friendly return system shall be maintained in good operating condition and used continuously. Should periodic maintenance need to be performed it shall be scheduled to minimize impacts (i.e. perform maintenance during outages, screen maintenance, and other periods when the pumps or screens are not operating).

6.0 Scheduling of Unit Outages

In order to minimize the number of marine organisms entrained in the CWIS, flow reduction shall be implemented. In addition to variable speed pumps, unit outages during the peak entrainment season (March – May) shall be scheduled. During the March 15 through May 7 period, outages[1] shall be scheduled on one or more units to span as much of that period as possible.

7.0 Authorization

Approved By:

_____

Director, Electric Production

[1] Outages are subject to the approval of New York State Independent System operator (NYISO) and the local transmission operator (TO), Con Edison

Ravenswood TIOP Schedules

Ravenswood 10 & 20 Screen Wash Pumps[1]		
Activity	**Start**	**Completion**
Design & Engineering[2]	May 17, 2006	November 1, 2006
Procurement & Delivery	November 1, 2006	November 1, 2007
Installation & Testing[3]	November 1, 2007	December 31, 2007
Ravenswood 30 Screen Wash Pumps[1]		
Activity	**Start**	**Completion**
Design & Engineering[2]	May 17, 2006	November 1, 2006
Procurement & Delivery	November 1, 2006	April 1, 2008
Installation& Testing[3]	April 1, 2008	June 1, 2008
Ravenswood 30 VSP and Vacuum Priming System		
Activity	**Start**	**Completion**
Design & Engineering[2]	November 1, 2006	July 1, 2007
Procurement & Delivery	July 1, 2007	September 1, 2009
Installation & Testing[3]	September 1, 2009	November 1, 2009
Ravenswood 10 VSP and Vacuum Priming System		
Activity	**Start**	**Completion**
Design & Engineering[2]	November 1, 2007	September 1, 2008
Procurement & Delivery	September 1, 2008	September 1, 2010
Installation & Testing[3]	September 1, 2010	November 1, 2010
Ravenswood 20 VSP and Vacuum Priming System		
Activity	**Start**	**Completion**
Design & Engineering[2]	January 1, 2009	November 1, 2009
Procurement & Delivery	November 1, 2009	November 1, 2011
Installation & Testing[3]	November 1, 2011	December 31, 2011

[1] Screen wash pump upgrades are required for continuous screen operation

[2] Engineering activities will continue throughout the project.

[3] Once installed and tested, equipment shall be operated in accordance with the Ravenswood CWIS operating procedure.

Ravenswood TIOP

B.4.a.(2) Methodology for Assessing the Efficacy of Technologies and Operational Measures

The efficacy of technologies and operational measures in Condition B.2.a-d will be assessed using computer model simulations of impingement mortality and entrainment at Ravenswood units 10, 20, and 30. Model simulations of impingement mortality and entrainment for winter flounder and for the total of all finfish with the BTA technologies and operations in place will be compared to impingement mortality and entrainment for the Calculation Baseline to estimate average percentage reductions in IM&E over a 5-year operating period. Simulations for the Calculation Baseline will be based on unit operation at full flow and full capacity with 100% impingement mortality. Assessments for the Supplemental Technology and Operation Review Plan conducted in this permit period will be based on simulated generating conditions and outage schedules for each of the Ravenswood units. Assessments to verify compliance with the permit performance standards during the next permit cycle will be based on actual water use at the Station during the averaging period. Other inputs to the simulations will include: 1) available impingement and entrainment abundance data for Ravenswood, 2) impingement survival data from Ravenswood studies and the general literature, 3) condenser and auxiliary pump flows applicable to varying operational conditions, 4) other relevant information.

A-135

DEC APPROVAL OF RAVENSWOOD TECHNOLOGY INSTALLATION AND OPERATION PLAN, DATED AUGUST 29, 2007

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
Bureau of Habitat, 5th Floor
625 Broadway, Albany, New York 12233-4756
Phone: (518) 402-8924 • **FAX:** (518) 402-8925
Website: www.dec.ny.gov

August 29, 2007

Christopher Corrado
Environmental Engineering
KeySpan Corporation
175 East Old Country Road
Hicksville, New York 11801-4280

RE: Ravenswood Generating Station
SPDES No. 0005193
Technology Installation and Operation Plan

Dear Mr. Corrado:

I have reviewed the Technology Installation and Operation Plan (TIOP) submitted for the Ravenswood Generating Station, as required under SPDES Biological Monitoring Requirement No. B.4. The TIOP is approved by the Department. I look forward to the continuation of this important work. Thank You.

Sincerely,

Michael J. Calaban
Conservation Biologist

CC: C. Dowd
R. Jacobson
S. Zahn
B. Terbush

RAVENSWOOD SPDES INDUSTRIAL FACT SHEET, DATED SEPTEMBER 12, 2012 [A-136 - A-158]

Permittee: TC Ravenswood, LLC
Facility: Ravenswood Generating Station
SPDES No: NY0005193

Date: September 12, 2012
Prepared by: Bruce Terbush

Industrial Fact Sheet

Treatment Plant Description

The Ravenswood Generating Station is located in Long Island City along the East River. The facility has been in operation since 1963 and consists of 3 steam electric generators (units 10, 20 and 30), a combined cycle combustion turbine/steam electric generator (unit 40) and 11 simple cycle combustion turbines. Units 10, 20 and 30 have rated capacities of 400, 400 and 1027 megawatts. The SPDES permit for this facility addresses the discharge of once through cooling water, stormwater, boiler blowdown, floor drains, condensate, intake screen wash/fish returns and discharges from several processes which provide enhanced treatment to the municipal drinking water so that it can be used in the facility's boiler system. The additional treatment processes for boiler water include filtration, ion exchange and reverse osmosis.

Summary of Proposed Permit Changes:

- Updated permit pages and conditions reflect current permit language, Department guidance , format and nomenclature
- Latitude and longitude information were corrected for outfall 009 and 010 to reflect information submitted in the permittee's application.
- The discharge limit for total chlorine residual at outfall 001 was reduced from 0.13 mg/l to 0.075 mg/l.
- Monthly average limits 30 mg/l for total suspended solids (TSS) have been added to internal outfalls 01D, 01E, 01F, 01G and 01H. This is a BPT limit required by 40 CFR 423.12(b)(3) for the Steam Electric Power Generating Point Source Category.
- Daily maximum limits for oil and grease of 15 mg/l have been included at internal outfalls 01E, 01F and 01H.
- Monthly average limits 15 mg/l for oil & grease have been added to internal outfalls 01D, 01E, 01F, 01G and 01H. This is a BPT limit required by 40 CFR 423.12(b)(3) for the Steam Electric Power Generating Point Source Category.
- Outfall 004 limits and monitoring for Aroclors 1254 and 1260 have been removed as results have been reported as not detected for the past 10 years.
- The discharge limit for ethylbenzene at outfalls 004, 006 and 007 was reduced from 50 ug/l to 45 ug/l based upon the aquatic chronic standard of 7.5 ug/l.
- PCB monitoring for stormwater at outfall 011 has been removed. This is a new stormwater outfall that was added to the SPDES permit as a modification issued on December 28, 2010. PCBs are not expected to be present in this discharge.
- Footnotes regarding the permit limits, levels and monitoring requirements have been updated and consolidated onto page 8 of the draft permit.
- The Additional Requirements Section, Condition 1 (page 9) first sentence has been revised to more clearly prohibit the discharge of boiler and metal cleaning wastes.
- The old condition 4 (water treatment chemicals) in the Additional Requirements Section has been removed and replaced by the Water Treatment Chemical (WTC) Requirements section on page 18 of the draft permit.
- The Biological Monitoring Requirements section has been revised to eliminate the completed requirements.

Background Information

The current SPDES permit for the TC Ravenswood Generating Station was issued on April 20, 2007 and is based upon an application submitted in August 2005 in response to a request for information under the Environmental Benefit Permit Strategy program. Permit modifications were issued on January 13, 2009 and December 28, 2010.

In a June 13, 2011 letter the Department notified the Permittee that their SPDES permit would expire on April 30, 2012 and that they must submit a SPDES Permit Renewal Application and sampling data for review. The SPDES permit application was received on November 1, 2011. Sampling requested included conventional parameters and priority pollutants.

A review of the facility's Discharge Monitoring Reports from 10/1/08 to 11/30/11 shows that the facility exceeded their SPDES permit limits as follows:

DMR Period	Outfall	Parameter	Permit Limit	Value Reported
Nov. 2008	01A	pH (minimum)	6.0 s.u.	5.3 s.u.
June 2009	01D	pH (maximum)	9.0 s.u.	9.3 s.u
June 2009	004	TSS (daily max.)	50 mg/l	58 mg/l
Mar. 2010	006	TSS (daily max.)	50 mg/l	116 mg/l
Dec. 2010	006	TSS (daily max.)	50 mg/l	73 mg/l
May 2011	01D	TSS (daily max.)	100 mg/l	136 mg/l

Discharge Composition

Table 1 in Appendix C presents the existing effluent quality of the facility. The average and maximum concentration and mass reported are based on 3 years of Discharge Monitoring Report (DMR) data submitted by the permittee from 10/1/08 to 11/30/11. Additional pollutants detected in the effluent were reported in the SPDES NY-2C permit application.

Outfall and Receiving Water Information

The facility maintains the following outfalls:

Outfall No.	Design Flow Rate (MGD)	Latitude	Longitude	Receiving Water	Water Class	Water Index Number
001	853	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01A*	0.012	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01C*	0.145	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01D*	0.022	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01E*	0.002	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01F*	0.004	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01G*	0.01	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
01H*	0.003	40° 45' 31"	73° 56' 54"	East River	I	ER(0.3-10.1)
002	0.027	40° 45' 40"	73° 56' 47"	East River	I	ER(0.3-10.1)
004	0.007	40° 45' 48"	73° 56' 40"	East River	I	ER(0.3-10.1)
006	0103	40° 45' 44"	73° 56' 43"	East River	I	ER(0.3-10.1)
007*	0.10	40° 45' 32"	73° 56' 53"	East River	I	ER(0.3-10.1)
008	1.152	40° 45' 33"	73° 56' 50"	East River	I	ER(0.3-10.1)
009	1.152	40° 45' 33"	73° 56' 50"	East River	I	ER(0.3-10.1)
010	1.728	40° 45' 37"	73° 56' 45"	East River	I	ER(0.3-10.1)
011	0.416	40° 45' 30"	73° 56' 45"	East River	I	ER(0.3-10.1)

Note: "*" Outfalls 01A, 01C, 01D, 01E, 01F, 01G, 01H and 007 combine with the condenser cooling water and discharge via Outfall 001.

The facility discharges condenser cooling water, stormwater, boiler blowdown, floor drains, intake screen wash/fish returns filter backwash, reverse osmosis reject water, condensate and demineralizer & ion exchange regeneration discharges through the outfalls listed below into the East River. The East River is classified as Class I by the Department with the following beneficial uses:

The best usages of Class I waters are secondary contact recreation and fishing. These waters shall be suitable for fish, shellfish, and wildlife propagation and survival.

Critical Flows and Dilution

Due to the tidal nature of the receiving water, the 7Q10 and 30Q10 flows are not applicable. Dilution and receiving water data is as follows:

Outfall No.	Receiving Water	Dilution/Mixing	pH (SU)	Temp (°C)	Salinity
001	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
002	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
004	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
007	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
008	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
009	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
010	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt
011	East River	10:1 d	7.2	Summer 24.8° C Winter 0° C	Summer 23.9 ppt Winter 21.8 ppt

Notes: d - use default dilution value per TOGS 1.3.1

Dilution/Mixing Zone Analysis

Mixing zone analysis has not been conducted and a default dilution of 10:1 has been assigned per TOGS 1.3.1.

Critical Receiving Water Data

Values for temperature, pH, and salinity were obtained from Ravenswood intake monitoring data, Ravenswood discharge monitoring data and NYCDEP Harbor WQ Survey Data (1990-1999), respectively.

303(d) Impaired Waterbody Information

Year Listed	Cause/Pollutant	Suspected Source	TMDL Status
1998	PCBs, other toxics	Contaminated Sediments	Completed in 1994 for copper, lead mercury & nickel

The 303(d) list identifies waters that do not support appropriate uses and that require development of a Total Maximum Daily Load (TMDL) or other restoration strategy. The NJ-NY Harbor waters are listed in 303(d) list for mercury, PCBs, dioxins/furans, PAHs, pesticides and heavy metals. The department of health has issued a health advisory for eating fish taken from the Hudson River.

A TMDL was developed in 1994 for the NY-NJ Harbor for copper, mercury, nickel and lead. The East River was determined to be effluent limited for copper, nickel and lead. The mercury exceeded NY State's ambient water quality standard throughout NY-NJ Harbor. Waste Load allocation (TMDL/WLA) for this facility have not been applied because the water is being removed from and returned to the East River for cooling with no net increase in copper, mercury, nickel and lead loadings.

Effluent Limitations

The NYSDEC followed the Clean Water Act, state and federal regulations, and the Division of Waters Technical and Operational Guidance Series documents for developing the effluent limits. In general, the Clean Water Act requires that the effluent limits for a particular pollutant are the more stringent of either the technology-based or water quality-based limits. A technology-based effluent limit requires a minimum level of treatment for industrial point sources based on currently available treatment technologies. A water quality-based effluent limit (WQBEL) is designed to ensure that the water quality standards of receiving waters are being met. The table detailing the effluent limits is included in the draft permit. More information on the derivation of technology- and water quality-based effluent limits is presented in Appendix C.

Monitoring Requirements

Section 308 of the Clean Water Act and federal regulations 40 CFR 122.44(i) require that monitoring be included in permits to determine compliance with effluent limitations. Additional effluent monitoring may also be required to gather data to determine if effluent limitations may be required. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) to NYSDEC.

The draft permit contains the monitoring requirements for the facility. Monitoring frequency is based on the minimum sampling necessary to adequately monitor the facility's performance. For industrial facilities, sampling frequency is based on guidance provided in TOGS 1.2.1.

Other Permit Conditions

Additional Requirements

Several additional permit conditions are listed in the permit to address operational issues and additional reporting requirements related to steam electric power generating facilities.

Biological Monitoring Requirements

In accordance with 6 NYCRR Part 704.5, the location, design, construction and capacity of the cooling water intake structures, in connection with point source thermal discharges, shall reflect the best technology available for minimizing the adverse environmental impacts. The Ravenswood facility has a combined flow of once through, condenser cooling water and service water of 1457 million gallons per day. The shoreline intake structure consists of 14 intake bays and conventional through flow traveling screens to keep the station's condensers clear. Marine organisms and debris are continuously washed off the screens at each unit are returned to the East River through a Department approved, low stress fish

return pipe. As part of the SPDES permit modification issued on April 20, 2007, the New York State Department of Environmental Conservation (NYSDEC) determined that, in combination, the following technologies represent the best technology available (BTA) for minimizing adverse environmental impacts from the cooling water intake system. In accordance with schedules contained in the current SPDES permit, installation of these alternatives were to be completed by February 28, 2012 in order to achieve a 90% reduction in impingement mortality and a 65% reduction in entrainment from the calculation baseline. The technologies included:

a) Installation of variable speed pumps and ancillary equipment at Ravenswood Units 1, 2 and 3 that will allow for the reduction in cooling water use during periods of low electrical generation;

b) Scheduling of a planned outage process that will require cooling water pumps to be shut down to reduce impingement and entrainment during periods of non electrical generation;

c) Upgrades to the existing traveling intake screens at Ravenswood Units 1, 2 and 3 to allow for the continuous operation of all traveling intake screens and construction of low stress fish returns, to increase fish impingement survival;

The Biological Monitoring Requirements included in this SPDES permit reflect a continuation of these requirements including verification monitoring, a report demonstrating compliance and submission of status reports. A Biological Fact Sheet for the Cooling Water Intake Structures, prepared by the NYSDEC, Division of Fish, Wildlife and Marine Resources, Bureau of Habitat, Steam Electric Unit has been included in Appendix B of this fact sheet

Special Conditions – Industry Best Management Practices

The permittee is required to implement a Best Management Practices (BMP) plan that prevents, or minimizes the potential for, the release of significant amounts of toxic or hazardous pollutants to state waters. The BMP plan requires annual review by the permittee.

Water Treatment Chemicals

The use of water treatment chemicals (WTCs) in wastewater treatment systems requires the review and authorization by the NYSDEC. In most cases, a permit modification is not necessary. WTC usage must be logged and detailed in an annual report sent to the DEC. The draft permit details the authorized WTCs for the facility.

Compliance Schedules

A schedule of compliance is included in the draft permit identifying a submission required by the biological monitoring requirements for the cooling water intake structures.

Additional Permit Provisions

The draft permit contains standard regulatory language that is/are required to be in all SPDES permits. These permit provisions are based largely upon 40 CFR 122, subpart C and include requirements pertaining to monitoring, recording, reporting, and compliance responsibilities.

Other Legal Requirements

Discharge Notification Act

In accordance with Discharge Notification Act (ECL 17-0815-a), the permittee is required to post a sign at each point of wastewater discharge to surface waters. The permittee is also required to provide a public repository for DMRs as required by the SPDES permit.

Antidegradation Policy

New York State implements the antidegradation portion of the CWA based upon two documents:

1. Organization and Delegation Memorandum #85-40, entitled "Water Quality Antidegradation Policy," signed by the Commissioner of NYSDEC, dated September 9, 1985.

2. TOGS 1.3.9, entitled "Implementation of the NYSDEC Antidegration Policy – Great Lakes Basin (Supplement to Antidegradation Policy dated September 9, 1985)."

An SPDES permit cannot be issued that would result in the water quality criteria being violated. The draft permit for the facility contains effluent limits which ensure that the existing beneficial uses of the East River will be maintained.

Appendix A

Basis for Effluent Limitations

Statutory and Regulatory Basis for Limits

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Clean Water Act (CWA) provide the basis for the effluent limitations and other conditions in the draft permit. The NYSDEC evaluates discharges with respect to these sections of the CWA and the relevant SPDES regulations to determine which conditions to include in the draft permit.

In general, the permit writer does a statistical analysis of the monitoring data provided in permittee-submitted discharge monitoring reports (DMRs). Pollutant screening data as required in the Request for Information is also reviewed to determine the presence of additional contaminants that should be considered for inclusion in the permit. The permit writer determines the technology-based limits that must be incorporated into the permit in accordance with federal and state rules, regulations, and technical guidance. The Department then evaluates the water quality expected to result from these controls to determine if any exceedances of water quality standards in the receiving water would result. If there is a reasonable potential for exceedances to occur, water quality-based limits must be included in the permit. The draft permit limits reflect whichever requirements, technology or water quality, are more stringent. The proposed limits are located on Page[s] **xx-xx** of the draft permit. This Appendix describes the technology-based and water quality-based evaluation for the facility.

Technology-Based Evaluation

Section 301(b) and 402 of the CWA require technology-based controls on effluents. This section of the Clean Water Act requires that, by March 31, 1989, all permits contain effluent limitations which: (1) control toxic pollutants and non-conventional pollutants through the use of "best available technology economically achievable" (BAT), and (2) represent "best conventional pollutant control technology" (BCT) for conventional pollutants. In no case may BCT or BAT be less stringent than "best practical control technology currently available" (BPT), which is the minimum level of control required by Section 301(b)(1)(A) of the Clean Water Act. After March 31, 1989, all permits for new sources are required to contain effluent limitations for all categories of point sources which control toxic pollutants through the use of best available demonstrated technology (BADT). BADT is specifically applied through New Source Performance Standards (NSPS).

In many cases, BPT, BCT, BAT and NSPS limitations are based on effluent guidelines developed by USEPA for specific industries. Guidelines for the Steam Electric Power Generation Category can be found in 40 CFR 423. Specific effluent guidelines for this facility include once through cooling water and low volume waste sources (e.g., floor drains, boiler blowdown, ion exchange water treatment systems, etc.) and require monitoring and limitations on pH, TSS, Oil & Grease and Total Residual Chlorine. Specific effluent limits for these pollutants can be found in the Tables at the end of Appendix C. In addition to the effluent guidelines promulgated by USEPA, the permit writer is authorized to use his/her best professional judgment (BPJ) in developing technology-based limitations. The authority for BPJ is contained in Section 402(a)(1) of the CWA, which authorizes the Department to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of the Act." The NPDES regulations in 40 CFR 125.3 state that permits developed on a case-by-case basis under Section 402(a)(1) of the CWA must consider:

1. The appropriate technology for the category class of point sources, of which the applicant is a member, based on available information; and
2. Any unique factors relating to the applicant.

For certain industrial sectors, Effluent Guidelines have not been promulgated by USEPA. In other instances, facilities that are subject to federal regulations may have substances in their discharges that are not explicitly limited by the regulations. To determine if these substances require technology-based effluent limits, the permit writer must apply Best Professional Judgment (BPJ). The authority for BPJ is contained in Section 402(a)(1) of the CWA, which authorizes the Department to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of the Act." The NPDES regulations in 40 CFR 125.3 state that permits developed on a case-by-case basis under Section 402(a)(1) of the CWA must consider:

1. Reviewing Effluent Guidelines for sectors with similar pollutants,
2. Reviewing limitations developed at similar facilities, and
3. Any unique factors relating to the applicant.

Water Quality-Based Evaluation

In addition to the technology-based limits previously discussed, the NYSDEC evaluated the discharge to determine compliance with Section 301(b)(1)(C) of the Clean Water Act. This section requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977.

The regulations in 40 CFR 122.44(d)(1) implement Section 301(b)(1)(C) of the Clean Water Act. These regulations require that SPDES permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality. The limits must be stringent enough to ensure that water quality standards are met and must be consistent with any available wasteload allocation (WLA).

Water Quality Criteria

Water quality regulations detailed in 6 NYCRR Parts 700-706 and ambient water quality standards and guidance values specified in TOGS 1.1.1 were applied to the facility's discharge. Specific application of the regulations and standards is detailed in the tables at the end of Appendix C.

Reasonable Potential Evaluation

Reasonable potential analysis is the process for determining whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion above New York State water quality criteria for toxic pollutants. When conducting a reasonable potential analysis for each pollutant of concern, factors such as receiving water classification and corresponding water quality criteria and guidance values, pollutant concentration in the effluent, dilution available in the receiving water, background concentrations and additional upstream and downstream dischargers containing the pollutant of concern are used to quantify the receiving water quality. If the expected concentration of the pollutant of concern in the receiving water exceeds the ambient water quality criteria or guidance value then there is reasonable potential that the discharge may cause or contribute to a violation of the water quality standard, and a water quality-based effluent limit or load allocation for the pollutant is required. Calculations performed specifically for the effluent of this facility can be found at the end of this Appendix.

Whole Effluent Toxicity (WET) Testing - WET tests use small vertebrate and invertebrate species to measure the aggregate toxicity of an effluent. There are two different durations of toxicity tests: acute and chronic. Acute toxicity tests measure survival over a 96-hour test exposure period. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. Per TOGS 1.3.2, WET testing is required when

- there is the presence of substances in the effluent for which ambient water quality criteria do not exist.
- there are uncertainties in the development of TMDLs, WLAs, and WQBELs, caused by inadequate ambient and/or discharge data, high natural background concentrations of pollutants, available treatment technology, and other such factors.
- there is the presence of substances for which WQBELs are below analytical detectability.
- there is the possibility of complex synergistic or additive effects of chemicals, typically when the number of metals or organic compounds discharged by the permittee equals or exceeds five.
- there are observed detrimental effects on the receiving water biota.
- previous WET testing indicated a problem.

WET testing has not been included with this permit. The major discharges at this facility are once through cooling water and site stormwater. There are also several low volume wastewater discharges including boiler blowdown and treatment discharges related to the treatment of municipal drinking water for use in the power station boilers. Any water treatment chemicals used in these processes are evaluated and the information provided includes product composition, dosage rates, outfall concentrations and toxicity data. Based upon review of this information WET testing has not been recommended because there is no expectation of toxic effects from the discharge in the receiving water.

Procedure for Deriving Water Quality-Based Effluent Limits (WQBELs)

The TMDL process is a water quality based approach to implementing water quality standards. It is applied to an entire watershed or drainage basin whenever possible, but may also be applied to waterbody segments with individual or multiple pollutant sources. The TMDL analysis is carried out separately for each pollutant. It allows for the consideration of all sources of the pollutant including point sources, non-point sources, atmospheric deposition and natural background. Dependant on the complexity of the issue and the amount of data available, the analysis can be relatively simple such as a desk-top, mass-balance calculation or it can be exacting and detailed by using complex, multidimensional water quality models. The TMDL process serves a dual function in the permit development process. It provides the basis for the reasonable potential analysis. If the reasonable potential analysis indicates that the pollutant of concern has the potential to cause or contribute to an excursion of water quality standards, the TMDL process is then used to determine the WQBELs for all sources of the pollutant to assure compliance with the standards.

Pollutant-Specific Analysis

This section outlines the basis for each of the effluent limitations in the permittee's draft permit.

Mercury

Mercury was previously detected in stormwater at the facility at an average level of 14.1 ng/l, which exceeds the water quality standard of 0.7 ng/l. Although the standard is exceeded, this concentration in rainwater is common. New York State's mercury multiple discharge variance (MDV) in TOGS 1.3.10 is being applied. Mercury may also be present in the intake water taken directly from the same body of water to which the discharge occurs. As there are no known sources or additional contributions of

mercury which would qualify the facility as high priority mercury discharger, the permit does not include a mercury limit or mercury minimization program.

Outfall 001

Discharge Temperature - The discharge temperature is based upon existing permit limits. This limit remains in the permit unchanged.

Intake-Discharge Temperature Difference - The discharge temperature difference (or delta T) is based upon existing limits. This limit remains in the permit unchanged.

Net Addition of Heat - The net addition of heat is based upon existing limits. This limit remains in the permit unchanged.

Total Residual Chlorine (TRC) - A TRC limit of 0.075 mg/L is included in the draft permit. 6 NYCRR Part 703.5 establishes a total residual chlorine standard of 7.5 µg/L as a aquatic chronic standard. A default 10:1 dilution ratio has been applied to this discharge to the East River.

Outfalls 01A, 01D, 01E, 01F, 01G & 01H

Total Suspended Solids (TSS) - The discharges from these outfalls are considered to be low volume waste sources as identified in the Steam Electric Power Generation Category. The daily maximum limit of 100 mg/l and the 30 day average limit of 30 mg/l are best practicable control technology (BPT) limits required by 40 CFR 423.12(b)(3). The existing daily maximum limit of 50 mg/l at outfall 01G will remain based upon antibacksliding provisions.

Oil & Grease - The discharges from these outfalls are considered to be low volume waste sources as identified in the Steam Electric Power Generation Category. The daily maximum limit of 20 mg/l and the 30 day average limit of 15 mg/l are best practicable control technology (BPT) limits required by 40 CFR 423.12(b)(3). The existing permit includes daily maximum Oil & Grease limits of 15 mg/l for outfalls 01A, 01D and 01G. These limits remain unchanged in the draft permit. Daily maximum Oil & Grease limits of 15 mg/l have also been added for outfalls 01E, 01F and 01H. During the public comment period for the draft permit, the USEPA commented that the monthly average Oil & Grease limit of 15 mg/l must also be included to reflect the technology based limit for the Steam Electric Power Generation Category for low volume wastewater. As a result, the monthly average limit has been added to the permit.

Ammonia – Monitoring for ammonia at outfalls 01D and 01G is based upon the potential for it to be present in the discharge based upon ammonia storage for air pollution control equipment and a possible byproduct from water treatment chemical use in boiler blowdown.

Outfalls 004, 006, 007 and 011

Oil & Grease – An oil and grease limit of 15 mg/l has been applied to these discharges based upon the narrative water quality standard for oil and floating substances contained in 6 NYCRR Part 703.2. The 15 mg/l limit reflects the lower concentration at which a visible sheen is observed.

Total Suspended Solids (TSS) – An TSS limit of 50 mg/l has been applied to these discharges based upon the narrative water quality standard for turbidity, suspended, colloidal and settleable solids contained in 6 NYCRR Part 703.2. The 50 mg/l limit reflects the lower concentration at which a visible contrast may be observed and may cause deposition or impair waters for their best usage.

Benzene, Toluene and Xylene – The existing limit of 50 ug/l for these compounds have been applied as BPJ limits. These compounds are common target pollutants associated with fuel storage. The 50 ug/l limit is more stringent than the associated WQBEL for these compounds.

Ethylbenzene – A limit of 45 ug/l is included in the draft permit. The Department-s Technical & Operational Guidance Series (TOGS) 1.1.1 - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations lists an ambient aquatic (chronic) guidance value of 4.5 ug/l. Using a default 10:1 dilution ratio, a WQBEL of 45 ug/l has been applied.

Aroclor – The existing permit limit for Aroclors 1254 and 1260 at outfall 004 was removed as sampling data for the past 10 years indicates that samples were all reported as not detected.

APPENDIX B
Biological Fact Sheet - Cooling Water Intake Structure
Bureau of Habitat, Steam Electric Unit

Description of Facility
The Ravenswood Generating Station, located on the East River, contains three units with rated capacities of 400, 400 and 1027 megawatts. The facility has a combined flow of condenser cooling water and service water of 1457 million gallons per day. The shoreline intake structure consists of 14 intake bays and conventional through flow traveling screens to keep the station's condensers clear. Marine organisms and debris are continuously washed off the screens at each unit are returned to the East River through a Department approved, low stress fish return pipe.

Ecological Resource
The East River is part of the Hudson-Raritan Estuary System, extending approximately 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The estuary system connects to the coastal marine waters of the New York Bight, between Sandy Hook, NJ and Rockaway Point, NY, and to the western end of the Long Island Sound through the East River.

The East River is a tidal strait extending about 16 miles from the battery to Throgs Neck at Long Island Sound. At Hell's Gate, a natural sill divides the strait into two distinct hydrological sections. The upper East River, which connects to Long Island Sound, is broader, more shallow and characterized by more natural shoreline habitat. The Lower East River, where the Station is located, is a narrower 10 mile section, bulkheaded along most of its length. The channel here is steep sided with depths at approximately 35 to 80 feet. Current velocities in the vicinity of the Station are high, with average peak flood and ebb currents at about 4.6-4.7 feet per second, and maximum tidal velocities exceeding 5.5 feet per second (ASA, 2001).

More than 140 species of fish have been reported from the Hudson-Raritan Estuary System, representing marine, estuarine, freshwater and diadromous fish, as well as species adapted to northern and southern climates. More than 50 species of fish, mostly marine in origin, have been identified from studies conducted at the Station in the 1990s. Under a 1992 consent order with the Department, Con Edison conducted a series of studies to assess the Station's impact on aquatic resources in the East River and determine best technology available for the cooling water intake system. Impingement and entrainment studies conducted were between 1991 and 1994. Approximately 83,000 fish were estimated to be impinged per year, mainly winter flounder, blueback herring, bay anchovy and grubby. Entrainment studies conducted over that time estimated that an average of 220 million eggs, larvae and juvenile fish were entrained per year, with eggs accounting for approximately 75% of the total. The principal species entrained were four beard rockling, bay anchovy, winter flounder, grubby and silver hake (Con. Ed., 1996).

Studies required under the consent order determined that several species of impinged fish, including winter flounder, bay anchovy and Atlantic tomcod, experience thermal stress and possibly increased levels of mortality upon exposure to the high summer temperatures in the cooling water discharge canal. A mark-recapture study was then conducted to determine suitable location(s) to return fish directly to the East River without exposure to the station's thermal discharge. Construction of three fish return pipes, one for each unit, was completed in 2005. The system safely transports impinged fish back to the East River and was the first step in mitigating the impacts of the Station's cooling water intake system.

The most recent Impingement and Entrainment studies were conducted from March 2005 to February 2006. About 25,850 fish were impinged over the year, representing 61 taxons. Blueback herring (21.8%), bay anchovy (13.5%) and alewife (11.3%) were impinged in greatest numbers. Approximately 149.7 million eggs, larvae and juveniles were entrained through the station. Bay anchovy (22.8%), Atlantic menhaden (18.5%) and the goby family (12.5%) were the predominant taxons entrained. Post-yolk-sac larvae (51.2%) and eggs (47.0%) were the main life stages found in the entrainment collections.

Alternatives Evaluated

Feasible technological and operational alternatives were evaluated for this facility, including the use of closed cycle cooling, in order to determine best technology available to minimize adverse environmental impact from operation of the cooling water intake system. The Department selected the alternatives that will minimize impacts, consistent with 6NYCRR Part 704.5 and the federal Clean water Act.

Determination of Best Technology Available

According to 6NYCRR Part 704.5 - Intake structures and Section 316(b) of the federal Clean Water Act, the location, design, construction, and capacity of cooling water intake structures must reflect the "best technology available" (BTA) for minimizing adverse environmental impact. After evaluating all of the available alternatives, the New York State Department of Environmental Conservation (NYSDEC) determined that, in combination, the following technologies and operational measures listed here represent the best technology available (BTA) for minimizing adverse environmental impacts from the cooling water intake system. Implementation of these items was completed by early 2012. The SPDES permit requires that these alternatives achieve a 90% reduction in impingement mortality and a 65% reduction in entrainment from the calculation baseline. The cost of these technologies is not wholly disproportionate to the benefits.

a) Installation of variable speed pumps and ancillary equipment at Ravenswood Units 1, 2 and 3 that will allow for the reduction in cooling water use during periods of low electrical generation;

b) Scheduling of a planned outage process that will require cooling water pumps to be shut down to reduce impingement and entrainment during periods of non electrical generation;

c) Upgrades to the existing traveling intake screens at Ravenswood Units 1, 2 and 3 to allow for the continuous operation of all traveling intake screens and construction of low stress fish returns, to increase fish impingement survival;

A Supplemental Technology and Operation Review/Plan was submitted and approved by the Department in May 2011. Based upon performance testing of variable speed pumps installed at Unit 30, simulations of variable speed pump operation and cooling water use reduction was established for the entire station. Plant generation data from 2005-2009 and several years of in-plant impingement, impingement survival and entrainment data were then used to estimate what the likely reductions in impingement mortality and entrainment would have been over the 2005-2009 period with the BTA alternatives in place. The assessment indicated that under the stated operating conditions and time period, the impingement mortality reduction of 90% and entrainment reduction of 65% from baseline, required by the SPDES permit, would have been achieved.

Monitoring Requirements

A *Verification Monitoring Plan* for was submitted and approved by the Department in December 2011. The plan details the procedures necessary to confirm that the reductions in impingement mortality and entrainment required by this permit are being achieved. The specific requirements of the monitoring plan are set forth in Additional Requirements Nos. 4.a.- e. of the modified SPDES permit.

Legal Requirements

The requirements for the cooling water intake structure in this State Pollutant Discharge Elimination System permit are consistent with the policies and requirements embodied in the New York State Environmental Conservation Law, in particular - Sec.1-0101.1.; 1-0101.2.; 1-0101.3.b., c.; 1-0303.19.; 3-0301.1.b., c., i., s. and t.; 11-0107.1; 11-0303.; 11-0535.2; 11-1301.; 11-1321.1.; 17-0105.17.; 17-0303.2., 4.g.; 17-0701.2. and the rules thereunder, specifically 6NYCRR Part 704.5. Additionally, the requirements are consistent with the Clean Water Act, in particular Section 316(b) and the rules thereunder, specifically Subpart J of 40 CFR §125 - Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under 316(b) of the Clean Water Act.

Summary of Changes

Deletions (Former Permit Conditions)

Former Permit Condition	Reason for Deletion or Change
Additional Requirement No. B.1	Condition has been met.
Additional Requirement No.B.8.	Condition is no longer relevant, now that BTA has been established.

References

ASA 2001. Ravenswood Generating Station. Final Action Report. Prepared by ASA Analysis and Communication, Inc. for the Keyspan Corporation.

ASA 2004. Evaluation of the Fish Protection Benefits of Cooling Water Intake System Alternatives at the Ravenswood Generating Station. Phase 2 Report. Prepared by ASA Analyses and Communication, Inc. for the Keyspan Corporation. April 2004. Revised February 2005.

Con. Ed. 1996. Ravenswood Generating Station. Diagnostic Study Report. Prepared by Consolidated Edison Company of New York, Inc. Pursuant to the December 23, 1993 Order On Consent in DEC file No. R2-2985-90-04. April 30, 1996.

Document prepared by Michael J. Calaban, and last revised on 25 January 2012.

Appendix C

Individual Outfall Data Summaries and Permit Limit Development

Existing Effluent Quality and Technology Based Effluent Limits (TBEL)

Technology Based Effluent Limit (TBEL) is set based upon an evaluation of Best Available Technology Economically Achievable (BAT), Best Conventional Pollutant Control Technology (BCT), Best Practicable Technology Currently Available (BPT), and Best Professional Judgment (BPJ). BPJ limits may be set using any reasonable method that takes into consideration the criteria set forth in 40 CFR 125.3.

For the Existing Effluent Quality, the statistical methods utilized are in accordance with TOGS 1.2.1 and the USEPA, Office of Water, Technical Support Document For Water Quality-based Toxics Control, March 1991, Appendix E. Statistical calculations were not performed for parameters with insufficient data. Generally, ten or more data points are needed to calculate percentiles (See TOGS 1.2.1 Appendix D). Two or more data points are necessary to calculate an average and a maximum. Non-detects were excluded in the statistical calculations.

Monitoring data collected during the following time period of 10/1/08 to 11/30/11 was used to calculate statistics and these data were taken from Discharge Monitoring Reports.

Water Quality Based Effluent Limits (WQBEL)

Ambient Water Quality Criteria (AWQC) and guidance values specified in "Water Quality Regulations" New York State Codes, Rules and Regulations Title 6, Chapter X, Parts 700-705 and TOGS 1.1.1 were applied to the following pollutants identified in the facilities discharge. Water Quality Based Effluent Limits (WQBEL's) were calculated by applying the TMDL process for each pollutant.

TABLE 1

Outfall #	001 Main Outfall – Condenser cooling water for units 10, 20 & 30 plus discharge outfalls 01A, 01C, 01D, 01E, 01F, 01G and 01H

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality – (EEQ)**				**Technology Based Effluent Limit – (TBEL)**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (MGD)	Average	538	Maximum	1390	Monitor			NA						
pH (su)	Minimum	7.1	Maximum	7.6	6.0 – 9.0		Range		BCT, 40 CFR Part 423.12(b)(1)	6.5-8.5	Apply TBEL			T
Temperature (deg. F)	75.9	97.9			104.2		Max		6NYCRR Part 704	6NYCRR Part 704	See text			
Intake/Discharge Temperature Difference (deg. F)	14.8	20.5			23		Max		BPJ – existing limit	No stnd/guidance value				T
Net Addition of Heat (BBTU/hr)	4.34	9.5			10.7		Max		BPJ – existing limit	No stnd/guidance value				T
Total Chlorine Residual (mg/l)	0.07	0.07			0.2		Max		BCT, 40 CFR Part 423.13(b)(1)	7.5	0.075	------	Max	WQ

Notes: Outfalls 01A, 01C, 01D, 01E, 01F, 01G & 01H all combine with condenser cooling water to discharge via Outfall 001.

TRC Application is 2 hours per unit, with 3 units total , use Aquatic Chronic A(C) standard of 7.5 ug/l Default Dilution 10:1 from TOGS 1.3.1

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TABLE 2

Outfall #	01A - Floor Drains and Fuel Oil Heating System Condensate

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (MGD)	Average	8.3	Maximum	8.3	Monitor			NA		NA - Internal Outfall				
pH (su)	Minimum	5.3	Maximum	7.9	6.0 – 9.0		Range		40 CFR Part 423.12(b)(1)					T
Total Suspended Solids (mg/l)	11.2	28			30/100		Avg/Max		40 CFR Part 423.12(b)(3)					T
Oil & Grease (mg/l)	5.2	8.6			15/15		Avg/Max		BPJ, existing limit and 40 CFR Part 423.12(b)(3)					T/WQ

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TABLE 3

Outfall #	01D – Boiler Blowdown, Reverse Osmosis Concentrate, Unit 40 stormwater, air cooled condenser wash water & ion exchange regeneration discharge

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	6000	Maximum	6000	Monitor			NA		NA - Internal Outfall				
pH (su)	Minimum	6.1	Maximum	9.3	6.0 – 9.0		Range		40 CFR Part 423.12(b)(1)					T
Total Suspended Solids (mg/l)	17.6	136			30/100	Avg/Max			40 CFR Part 423.12(b)(3)					T
Oil & Grease (mg/l)	5.2	8.6			15/15	Avg/Max			40 CFR Part 423.12(b)(3)					T/WQ
Ammonia, (mg/l)	0.3	1.8			Monitor only	Max			BPJ					T

TABLE 4

Outfall # 01E - Boiler Make-up Water Carbon Filter Backwash

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	2297	Maximum	2910	Monitor			NA		NA - Internal Outfall				
Total Suspended Solids (mg/l)	11.5	68			30/100		Avg/Max		40 CFR Part 423.12(b)(3)					T
Oil & Grease (mg/l)	< 5	< 5			15/15		Avg/Max		40 CFR Part 423.12(b)(3)					T/WQ
Note: Municipal water receives additional treatment for boiler make-up water														

TABLE 5

Outfall # 01F – Pre Filter Backwash

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	8157	Maximum	10500	Monitor			NA		NA - Internal Outfall				
Total Suspended Solids (mg/l)	10	10			30/100		Avg/Max		40 CFR Part 423.12(b)(3)					T
Oil & Grease (mg/l)	< 5	< 5			15/15		Avg/Max		40 CFR Part 423.12(b)(3)					T/WQ
Note: Municipal water receives additional treatment for boiler make-up water														

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TABLE 6

Outfall #	01G - Units 10, 20 & 30 Boiler Blowdown

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	24055	Maximum	68763	Monitor			NA		NA - Internal Outfall				
Total Suspended Solids (mg/l)	10.5	29			30/50*		Avg/Max		40 CFR Part 423.12(b)(3)					T
Oil & Grease (mg/l)	5	5			15/15		Avg/Max		BPJ, existing limit and 40 CFR Part 423.12(b)(3)					T/WQ
Ammonia (mg/l)	0.16	1.0			Monitor				BPJ					T

Note: "*" Existing TSS daily maximum permit limit of 50 mg/l.

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TABLE 7

Outfall #	01H – Demineralizer Regeneration

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	16616	Maximum	37066	Monitor			NA		NA - Internal Outfall				
Total Suspended Solids (mg/l)	10	10			30/100		Avg/Max		40 CFR Part 423.12(b)(3)					T
Oil & Grease (mg/l)	< 5	< 5			15/15		Avg/Max		40 CFR Part 423.12(b)(3)					T/WQ

TABLE 8

Outfall #	004 – Rainy Tank Farm – Underground Fuel Oil Tank Containment Vault

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	7200	Maximum	7200	Monitor			NA						
pH (su)	Minimum	7.0	Maximum	8.0	6.0 – 9.0		Range		BCT, existing limit	6.5-8.5	Apply TBEL			T
Total Suspended Solids (mg/l)	11.6	58			50				BPJ, existing limit	Narrative standard		Apply TBEL		T
Oil & Grease (mg/l)	5.1	7.8			15				BPJ, existing limit for visible sheen – narr.stnd	Narrative standard		Apply TBEL		T
Aroclor 1254 (ug/l)	< 0.065	< 0.065	< 0.002	< 0.002	Removed									
Aroclor 1260 (ug/l)	< 0.065	< 0.065	< 0.002	< 0.002	Removed									
Benzene (ug/l)	< 0.7	< 0.7			50				BPJ, existing limit	10 H(FC)	100	-----	Max	T
Ethylbenzene (ug/l)	< 1.0	< 1.0			50				BPJ, existing limit	4.5 A(C)	**45**	-----	Max	WQ
Toluene (ug/l)	< 1.0	< 1.0			50				BPJ, existing limit	92 A(C)	920	-----	Max	T
Xylene, Total (ug/l)	< 3.0	< 3.0			50				BPJ, existing limit	19 A(C)	190	-----	Max	T

Note: A(C) Aquatic Chronic Standard
H(FC) Human Consumption of Fish Standard
Default 10:1 dilution used per TOGS 1.3.1

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TABLE 9

Outfall #	006 – Stormwater from Gas Turbine Site Secondary Containment & Roof Drains

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	1600	Maximum	1600	Monitor			NA						
pH (su)	Minimum	6.1	Maximum	8.0	6.0 – 9.0		Range		BCT, existing limt	6.5-8.5	Apply TBEL			T
Total Suspended Solids (mg/l)	16.5	116			50				BPJ, existing limit	Narrative standard		Apply TBEL		T
Oil & Grease (mg/l)	5.0	5.3			15				BPJ, existing limit for visible sheen – narr.stnd	Narrative standard		Apply TBEL		T
Benzene (ug/l)	< 0.7	< 0.7			50				BPJ, existing limit	10 H(FC)	100	-----	Max	T
Ethylbenzene (ug/l)	< 1.0	< 1.0			50				BPJ, existing limit	4.5 A(C)	45	-----	Max	WQ
Toluene (ug/l)	< 1.0	< 1.0			50				BPJ, existing limit	92 A(C)	920	-----	Max	T
Xylene, Total (ug/l)	4.2	16.1			50				BPJ, existing limit	19 A(C)	190	-----	Max	T

Note: A(C) Aquatic Chronic Standard
H(FC) Human Consumption of Fish Standard
Default 10:1 dilution used per TOGS 1.3.1

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TABLE 10

Outfall #	007 – Stormwater from Old Settling Pond

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	28800	Maximum	28800	Monitor			NA						
Total Suspended Solids (mg/l)	10.3	11			50				BPJ, existing limit	Narrative standard		Apply TBEL		T
Oil & Grease (mg/l)	< 5.0	< 5.0			15				BPJ, existing limit for visible sheen – narr. stnd	Narrative standard		Apply TBEL		T
Benzene (ug/l)	< 0.7	< 0.7			50				BPJ, existing limit	10 H(FC)	100	-----	Max	T
Ethylbenzene (ug/l)	< 1.0	< 1.0			50				BPJ, existing limit	4.5 A(C)	45	-----	Max	WQ
Toluene (ug/l)	< 1.0	< 1.0			50				BPJ, existing limit	92 A(C)	920	-----	Max	T
Xylene, Total (ug/l)	< 3.0	< 3.0			50				BPJ, existing limit	19 A(C)	190	-----	Max	T

Note: A(C) Aquatic Chronic Standard
H(FC) Human Consumption of Fish Standard
Default 10:1 dilution used per TOGS 1.3.1

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TABLE 11

Outfall #	011 – Stormwater from East Side of Units 10 & 20

Effluent Parameter (Units) (concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)	**Existing Effluent Quality**				**Technology Based Effluent Limit**					**Water Quality Based Effluent Limit**				**Permit Basis** (T or WQ)
	concentration		mass					PQL		AWQC	Effluent			
	Avg/Max	95%/99%	Avg/Max	95%/99%	conc.	mass	Type	conc.	Basis	conc.	conc.	mass	Type	
Flow Rate (GPD)	Average	No data	Maximum	No data	Monitor			NA						
Total Suspended Solids (mg/l)	No data – stormwater outfall not yet completed				50				BPJ	Narrative standard		Apply TBEL		T
Oil & Grease (mg/l)					15				BPJ, limit for visible sheen – narr. stnd	Narrative standard		Apply TBEL		T

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RAVENSWOOD SPDES DISCHARGE PERMIT, DATED OCTOBER 1, 2012 [A-159 - A-179]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

Industrial Code:	4911	SPDES Number:	NY0005193
Discharge Class (CL):	03	DEC Number:	2-6304-00024/00004
Toxic Class (TX):	T	Effective Date (EDP):	11/01/2012
Major Drainage Basin:	17	Expiration Date (ExDP):	10/31/2017
Sub Drainage Basin:	02	Modification Dates:(EDPM)	
Water Index Number:	ER (0.3 – 10.1)		
Compact Area:	IEC		

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: TC Ravenswood , LLC Attention: William C. Taylor, Vice President
Street: 110 Turnpike Road, Suite 203
City: Westborough State: MA Zip Code: 01581

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: Ravenswood Generating Station
Location (C,T,V): Long Island City County: Queens
Facility Address: 38-54 Vernon Boulevard
City: Long Island City State: NY Zip Code: 11101
NYTM -E: NYTM - N:
From Outfall No.: 001 at Latitude: 40 ° 45 ' 31 '' & Longitude: 73 ° 56 ' 54 ''
into receiving waters known as: East River Class: I

and; (list other Outfalls, Receiving Waters & Water Classifications)
01A, 01C, 01D, 01E, 01F, 01G, 01H, 004, 006, 007, 008, 009, 010 &011 East River Class I

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: Ravenswood Generating Station
Street: 38-54 Vernon Blvd.
City: Long Island City State: NY Zip Code: 11101
Responsible Official or Agent: Kenneth A. Yager, Compliance Manager Phone: (718) 706-2702

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

C.O. BWP – Permit Coordinator
BWC
RWE
RPA
EPA Region II - Michelle Josilo
IEC
NYSDOH District Office

Deputy Chief Permit Administrator: Stuart M. Fox

Address: Division of Environmental Permits
625 Broadway
Albany, NY 12233-3505

Signature: Stuart M. Fox Date: 10 / 1 / 12

ADDITIONAL OUTFALL LOCATION INFORMATION

OUTFALL	DESCRIPTION	LATITUDE	LONGITUDE	Receiving Stream/Class
01A*	Floor Drains and Fuel Oil Heating System Condensate	40° 45' 31"	73° 56' 54"	East River/Class I
01C*	Yard and Roof Drains	40° 45' 38"	73° 56' 54"	East River/Class I
01D*	Unit 40 Stormwater, Floor Drains, Air Cooled Condenser Wash Water, Boiler Blowdown, Ion Exchange Regeneration Discharge & Reverse Osmosis Reject Water	40° 45' 38"	73° 56' 54"	East River/Class I
01E*	Boiler Make-up Water Carbon Filter Backwash	40° 45' 32"	73° 56' 49"	East River/Class I
01F*	Boiler Make-up Water Prefilter Backwash	40° 45' 32"	73° 56' 49"	East River/Class I
01G*	Units 10, 20 & 30 Boiler Blowdown	40° 45' 32"	73° 56' 49"	East River/Class I
01H*	Boiler Make-up Water Demineralizer Regeneration	40° 45' 32"	73° 56' 49"	East River/Class I
004	Rainey Tank Farm - Containment Vault and Stormwater	40° 45' 48"	73° 56' 40"	East River/Class I
006	Stormwater and Combustion Turbine Dump Tanks	40° 45' 44"	73° 56' 43"	East River/Class I
007	Stormwater from Old Settling Ponds	40° 45' 32"	73° 56' 53"	East River/Class I
008	Unit 10 Screen Wash Return	40° 45' 33"	73° 56' 50"	East River/Class I
009	Unit 20 Screen Wash Return	40° 45' 33"	73° 56' 50"	East River/Class I
010	Unit 30 Screen Wash Return	40° 45' 37"	73° 56' 45"	East River/Class I
011	Stormwater from East Side of Units 10 & 20	40° 45' 30"	73° 56' 45"	East River/Class I

Notes:*Outfalls 01A, 01C, 01D, 01E, 01F, 01G & 01H all combine with the condenser cooling water to discharge via Outfall 001.

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

OUTFALL	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
	This cell describes the type of wastewater authorized for discharge. Examples include process or sanitary wastewater, storm water, non-contact cooling water.	This cell lists classified waters of the state to which the listed outfall discharges.	The date this page starts in effect. (e.g. EDP or EDPM)	The date this page is no longer in effect. (e.g. ExDP)

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQ.	SAMPLE TYPE
e.g. pH, TRC, Temperature, D.O.	The minimum level that must be maintained at all instants in time.	The maximum level that may not be exceeded at any instant in time.	SU, °F, mg/l, etc.		

PARA-METER	EFFLUENT LIMIT	PRACTICAL QUANTITATION LIMIT (ML)	ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE
	Limit types are defined below in Note 1. The effluent limit is developed based on the more stringent of technology-based standards, required under the Clean Water Act, or New York State water quality standards. The limit has been derived based on existing assumptions and rules. These assumptions include receiving water hardness, pH and temperature; rates of this and other discharges to the receiving stream; etc. If assumptions or rules change the limit may, after due process and modification of this permit, change.	For the purposes of compliance assessment, the analytical method specified in the permit shall be used to monitor the amount of the pollutant in the outfall to this level, provided that the laboratory analyst has complied with the specified quality assurance/quality control procedures in the relevant method. Monitoring results that are lower than this level must be reported, but shall not be used to determine compliance with the calculated limit. This ML can be neither lowered nor raised without a modification of this permit.	Action Levels are monitoring requirements, as defined below in Note 2, that trigger additional monitoring and permit review when exceeded.	This can include units of flow, pH, mass, Temperature, concentration. Examples include µg/l, lbs/d, etc.	Examples include Daily, 3/week, weekly, 2/month, monthly, quarterly, 2/yr and yearly.	Examples include grab, 24 hour composite and 3 grab samples collected over a 6 hour period.

Note 1: DAILY DISCHARGE: The discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants expressed in units of mass, the 'daily discharge' is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the 'daily discharge' is calculated as the average measurement of the pollutant over the day. DAILY MAX: The highest allowable daily discharge. DAILY MIN: The lowest allowable daily discharge. MONTHLY AVG (daily avg): The highest allowable average of daily discharges over a calendar month, calculated as the sum of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. RANGE: The minimum and maximum instantaneous measurements for the reporting period must remain between the two values shown. 7 DAY ARITHMETIC MEAN (7 day average): The highest allowable average of daily discharges over a calendar week. 12 MRA (twelve month rolling avg): The average of the most recent twelve month's monthly averages. 30 DAY GEOMETRIC MEAN (30 d geo mean): The highest allowable geometric mean of daily discharges over a calendar month, calculated as the antilog of : the sum of the log of each of the daily discharges measured during a calendar month divided by the number of daily discharges measured during that month. 7 DAY GEOMETRIC MEAN (7 d geo mean): The highest allowable geometric mean of daily discharges over a calendar week.

Note 2: ACTION LEVELS: Routine Action Level monitoring results, if not provided for on the Discharge Monitoring Report (DMR) form, shall be appended to the DMR for the period during which the sampling was conducted. If the additional monitoring requirement is triggered as noted below, the permittee shall undertake a short-term, high-intensity monitoring program for the parameter(s). Samples identical to those required for routine monitoring purposes shall be taken on each of at least three consecutive operating and discharging days and analyzed. Results shall be expressed in terms of both concentration and mass, and shall be submitted no later than the end of the third month following the month when the additional monitoring requirement was triggered. Results may be appended to the DMR or transmitted under separate cover to the same address. If levels higher than the Action Levels are confirmed, the permit may be reopened by the Department for consideration of revised Action Levels or effluent limits. The permittee is not authorized to discharge any of the listed parameters at levels which may cause or contribute to a violation of water quality standards. The additional monitoring requirement is triggered upon receipt by the permittee of any monitoring results in excess of the stated Action Level.

PERMIT LIMITS, LEVELS AND MONITORING

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
001	Main Discharge (See footnote 1)	East River	11/01/2012	10/31/2017

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	5

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Daily Avg.	Daily Max.					
Flow	Monitor	Monitor		MGD	Hourly	Pump Log	1
Discharge Temperature	Monitor	104.2		°F	Continuous	Recorder	2,5
Intake-Discharge Temperature Difference	Monitor	23.0		°F	Continuous	Recorder	
Net Addition of Heat	Monitor	10.7 x 10E9		BTU/Hr	Monthly	Calculation	
Total Residual Chlorine	Monitor	0.075		mg/l	Continuous	Grab	3,4,5

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01A	Floor Drains and Fuel Oil Heating System Condensate	East River via Outfall 001	11/01/2012	10/31/2017

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Monthly	Grab	6

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	NA	Monitor		GPM	Monthly	Calculated	6
Oil & Grease	15	15		mg/l	Weekly	Grab	6
Suspended Solids, Total	30	100		mg/l	Monthly	Grab	6

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01D	Unit 40 Stormwater, Floor Drains, Air Cooled Condenser Wash Water, Boiler Blowdown, Ion Exchange Regeneration & Reverse Osmosis Reject Water	East River via Outfall 001	11/01/2012	10/31/2017

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	7

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	Monitor	Monitor		GPD	Weekly	Calculated	7
Oil & Grease	15	15		mg/l	Weekly	Grab	7
Suspended Solids	30	100		mg/l	Weekly	Grab	7
Ammonia	NA	Monitor		mg/l	Monthly	Grab	7

Footnotes listed on page 8 of this permit.

PERMIT LIMITS, LEVELS AND MONITORING (continued)

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01E, 01F & 01H	Boiler Make-up Water Carbon Filter Backwash (01E), Pre-Filter Backwash (01F) & Demineralizer Regeneration (01H)	East River via Outfall 001	11/01/2012	10/31/2017

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	NA	Monitor		GPM	Monthly	Calculated	7
Oil & Grease	15	15		mg/l	Semi-Annual	Grab	7
Suspended Solids, Total	30	100		mg/l	Monthly	Grab	7

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01G	Units 10, 20 & 30 Boiler Blowdown (01G)	East River via Outfall 001	11/01/2012	10/31/2017

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	NA	Monitor		GPM	Monthly	Calculated	7
Oil & Grease	15	15		mg/l	Semi-Annual	Grab	7
Suspended Solids, Total	30	50		mg/l	Monthly	Grab	7
Ammonia	NA	Monitor		mg/l	Monthly	Grab	7

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
004	Rainy Tank Farm - Underground Fuel Tank Containment Vault and Stormwater	East River	11/01/2012	10/31/2017

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	2/Month	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	NA	Monitor		GPD	Monthly	Calculated	
Oil & Grease	Monitor	15		mg/l	2/Month	Grab	
Total Suspended Solids	Monitor	50		mg/l	2/Month	Grab	
Benzene	NA	50		ug/l	Quarterly	Grab	
Ethylbenzene	NA	45		ug/l	Quarterly	Grab	
Toluene	NA	50		ug/l	Quarterly	Grab	
Xylene, Total	NA	50		ug/l	Quarterly	Grab	

Footnotes listed on page 8 of this permit.

PERMIT LIMITS, LEVELS AND MONITORING (continued)

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
006	Gas Turbine Site - Combustion Turbine Dump Tank and Stormwater from Secondary Containment & Roof Drains	East River	11/01/2012	10/31/2017

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Weekly	Grab	

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	NA	Monitor		GPD	Monthly	Calculated	
Oil & Grease	Monitor	15		mg/l	Weekly	Grab	
Total Suspended Solids	Monitor	50		mg/l	Weekly	Grab	
Benzene	NA	50		ug/l	Quarterly	Grab	
Ethylbenzene	NA	45		ug/l	Quarterly	Grab	
Toluene	NA	50		ug/l	Quarterly	Grab	
Xylene, Total	NA	50		ug/l	Quarterly	Grab	

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
007	Stormwater from Old Settling Ponds	East River	11/01/2012	10/31/2017

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	Monitor	Monitor		GPD	Each Discharge	Calculated	
Oil & Grease	Monitor	15		mg/l	Each Discharge	Grab	
Total Suspended Solids	Monitor	50		mg/l	Each Discharge	Grab	
Benzene	Monitor	50		ug/l	Each Discharge	Grab	
Ethylbenzene	Monitor	45		ug/l	Each Discharge	Grab	
Toluene	Monitor	50		ug/l	Each Discharge	Grab	
Xylene, Total	Monitor	50		ug/l	Each Discharge	Grab	

Footnotes listed on page 8 of this permit.

PERMIT LIMITS, LEVELS AND MONITORING (continued)

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
011	Stormwater from East Side of Units 10 & 20	East River	11/01/2012	10/31/2017

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FOOTNOTES (FN)
pH	6.0	9.0	SU	Quarterly	Grab	8,9

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	NA	Monitor		GPD	Quarterly	Calculated	
Oil & Grease	NA	15		mg/l	Quarterly	Grab	8,9
Total Suspended Solids	NA	50		mg/l	Quarterly	Grab	8,9

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01C	Stormwater	East River via Outfall 001	11/01/2012	10/31/2017
008, 009 & 010	Units 10, 20 & 30 Screen Wash Return	East River	11/01/2012	10/31/2017
NO MONITORING REQUIRED				

OUTFALL Nos.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
NA	Tank Test Water (See footnote 10)	East River	11/01/2012	10/31/2017

PARAMETER	EFFLUENT LIMIT or CALCULATED LEVEL		ACTION LEVEL	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	FN
	Monthly Avg.	Daily Max.					
Flow	Monitor	Monitor		GPD	Each Discharge	Instantaneous	10
Oil & Grease	Monitor	15		mg/l	Each Discharge	Grab	10
Chlorine, Total Residual	Monitor	0.10		mg/l	Each Discharge	Grab	10,11
Benzene	Monitor	20		ug/l	Each Discharge	Grab	10
Toluene	Monitor	20		ug/l	Each Discharge	Grab	10
Xylene, Total	Monitor	20		ug/l	Each Discharge	Grab	10
Ethylbenzene	Monitor	20		ug/l	Each Discharge	Grab	10

Footnotes listed on page 8 of this permit.

Footnotes

1 Main Discharge Outfall 001 includes condenser cooling water and discharges from outfalls 01A, 01C, 01D, 01E, 01F, 01G and 01H.

2 These limitations may be exceeded during periods when one or more condensing units are operating with only one circulating water pump (per unit), due to pump breakdown, routine maintenance, forced outage or other technical problems, (e.g., equipment failure). In the event of pump breakdown, the permittee shall take corrective action as soon as possible. Where possible, routine pump maintenance resulting in these limitations being exceeded, should be avoided during June-September. The permittee shall indicate on the Discharge Reporting Form: (1) which circulating water pumps, if any, were not in operation; (2) the dates and times such pumps were not operating; (3) the reason(s) for such pumps not operating; and (4) the period(s) (dates and times) during which these limitations were exceeded. In no case shall these limitations be exceeded more than 5% of the time during the operating year.

3 The period of chlorination shall be limited to two hours per day per condenser unit. The individual units shall be treated separately.

4 Monitoring is only required during the period of condenser chlorine treatments and discharge.

5 Samples for monitoring pH, temperature and chlorine are to be collected within the discharge tunnels.

6 Samples to be taken from the Oil/Water Separator discharge prior to any mixing with other discharges.

7 Samples to be taken from the discharge outfall prior to any mixing with other discharges.

8 Sample to be collected from the first manhole upstream of the junction with the NYC DEP storm sewer.

9 Stormwater is to be sampled as a grab sample collected from the discharge of a storm event with at least 0.1 inch of precipitation (defined as a "measurable" storm event), providing the interval from the preceding measurable storm event is at least 72 hours. The grab sample must be taken during the first 30 minutes of the stormwater discharge.

10 **Tank Test Water Discharge Requirements**
Tanks being hydrostatically tested must be free of product and cleaned. The Regional Water Manager must be informed at least two business days prior to the discharge of tank test water.

Any discharge of tank test water must be done under the direct supervision of plant personnel. Samples from the tank must be taken prior to discharge from various levels within the tank (top, middle, bottom). If sampling shows conformance with effluent limitations, discharge may be initiated. If effluent limitations are not attained, additional measures must be implemented to attain compliance prior to initiation of discharge.

A visual check of the discharge must be made for the presence of oil and floating substances. Data associated with tank test water shall be kept, along with log of visual observations, for a period of five years and be made available to Department personnel upon request.

The discharge of tank test water must be done in a manner that minimizes erosion of soil or sediment and does not cause flooding in the area of discharge. It must be done in a manner that minimizes the impact on the fisheries.

11 Required when a chlorinated supply such as that from a municipal system is used for tank testing purposes.

A. ADDITIONAL REQUIREMENTS

1. There shall be no discharge of the following wastes to surface waters or groundwater of the State; fly ash and bottom ash, sluice wastes, evaporator blowdown, or boiler and metal cleaning wastewater. Boiler and metal cleaning wastewater shall be disposed of by incineration in the plant boilers in accordance with the facility's Title V air permit or be collected and transported for treatment and disposal by an wastewater treatment facility capable of treating these wastewaters.

2. The permittee shall submit on a yearly basis a report to the Department's offices in Albany and Region 2 by the 28th of the month following the end of the annual period. This annual report must include:

   a. Daily minimum, average and maximum station electrical output;

   b. Daily minimum, average and maximum cooling water usage (directly or indirectly measured or calculated);

   c. Daily minimum, average and maximum intake and discharge temperatures;

   d. Values reported in a, b and c shall be based upon measurements taken on an hourly basis. Temperature readings may be obtained from a continuous recording device. This requirement is not a substitute for other monitoring requirements.

3. There shall be no visible sheen of oil and grease from discharges at any outfall.

4. In all instances chlorine shall be:

   a. kept to the minimum amount which will maintain plant operating efficiency; and

   b. eliminated when intake water temperature is below 40 $^{\circ}$F unless failure to apply chlorine below 40 $^{\circ}$F is shown to adversely affect plant operating efficiency.

5. Discharge from the emergency flood pumps for Units 10, 20 and 30 to the main discharge outfall 001 will be allowed under this permit provided that the permittee:

   a. collect a grab sample of the flood pump discharge for each unit and each discharge event to be analyzed for pH, total suspended solids and oil & grease;

   b. notify regional water staff within 1 business day of operation of the flood pumps;

   c. send copies of the monitoring results to regional water staff upon receipt with a cover letter summarizing operation of the emergency flood pumps for that event; and

   d. provide a written description of the best management practices that will be used to minimize the discharge of contaminants during emergency flood pump operation in the facility's Best Management Plan required under condition C.2 of the SPDES permit.

6. All thermal discharges to the waters of the State shall assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water as provided in 6NYCRR Part 704.1(a). The thermal plume resulting from this facility's discharge may not exceed 90 $^{\circ}$F (Part 704.2(b)(5)(I) of the State Water Quality Thermal Criteria) except within a designated mixing zone area of 2,580,000 sq. ft. (60 acres).

7. Notwithstanding any other requirements in this permit, the permittee shall also comply with all of the Water Quality Regulations promulgated by the Interstate Environmental Commission, including Section 1.01 and 2.05(f) as they relate to oil and grease.

A. ADDITIONAL REQUIREMENTS (continued)

8. Dilution is prohibited as a substitute for treatment. Except where expressly authorized to do so by an applicable Categorical Standard or the Commissioner or his duly authorized representative, no Industrial User shall ever increase the use of process water or, in any other way, attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a permit effluent limitation requirement.

9. There shall be no discharge to groundwaters or surface waters of oil tank bottom water, PCBs, and/or any industrial or manufacturing process wastewater effluents from this facility. Included in the effluents categorized as industrial process effluents are wastewater resulting from vehicle maintenance or washing operations. Washing operations are those cleaning operations which involve the use of detergents or other emulsifying chemicals.

   Tank bottoms water, vehicle maintenance and washing wastewater are not likely to be effectively treated by gravity separation alone and therefore are not permitted to be discharged. After review of an Engineering Submission for the treatment of tank bottoms, maintenance and/or washing wastewater, these prohibitions may be altered

10. When conducting the periodic testing of the foam fire suppression system as required by the Fire Department of New York (FDNY) the permittee shall:

    a. notify regional water staff at least 3 business days prior to testing;

    b. direct all foam to a temporary containment system at the facility; and

    c. use best efforts to contain, collect and dispose of the foam.

B. BIOLOGICAL MONITORING REQUIREMENTS

All submissions under this section should provide:
Two (2) copies to the Steam Electric Unit Leader;
One (1) copy of the cover letter to the Division of Water
State Pollution Discharge Elimination System (SPDES)
Compliance Information Section; and
One (1) copy of the cover letter to the Regional Water Manager;
unless otherwise noted.

1. **Best Technology Available**
The applicant has been required to perform the following mitigation activities to achieve best technology available (BTA) for the cooling water intake at the Ravenswood Generating Station. Installation of all technologies and or operational measures listed here have been completed.

   a. Installation of variable speed pumps and ancillary equipment at Ravenswood Units 10, 20 and 30 that will allow for a reduction in the volume of cooling water use;

   b. Upgrades to the existing traveling intake screens at Ravenswood Units 10, 20 and 30 to allow for the continuous operation of all traveling intake screens to increase impingement survival;

   c. Scheduling of a planned outage process that will require cooling water circulating pumps to be shut down to reduce the volume of cooling water use;

B. BIOLOGICAL MONITORING REQUIREMENTS (continued)

d. Low stress fish return lines, constructed at each unit, to return impinged fish directly to the East River.

2. **Performance Standards**

a. The technologies and operational procedures described in Condition B.1, Best Technology Available, must achieve a reduction in impingement mortality of 90% for all fish species combined and 90% for winter flounder alone from the calculation baseline. Compliance with this performance standard shall be determined through the studies conducted under the Verification Monitoring Plan required in Condition B.4.

b. The technologies and operational procedures described in Condition B.1, Best Technology Available, must achieve a 65% reduction in entrainment from the calculation baseline. Compliance with this performance standard shall be determined through the studies conducted under the Verification Monitoring Plan required in Condition B.4.

3. **Technology Installation and Operation Plan**

a. The permittee submitted a Technology Installation and Operation Plan (TIOP), which was approved on August 29, 2007. This plan included:

(1) A schedule for installing and implementing the technologies and/or operational measures in Condition B.1(a) through (d) to meet the BTA requirements of 6 NYCRR Part 704.5 and 316(b) of the Clean Water Act; and

(2) The methodology for assessing the efficacy of these technologies and operational measures.

b. The permittee submitted a Supplemental Technology and Operation Review/Plan, which was approved on May 3, 2011.

4. **Verification Monitoring Plan**

a. The Verification Monitoring Plan (VMP) was approved on December 9, 2011. The VMP includes procedures to confirm that the performance standards for reducing impingement and entrainment required by this permit in Condition B.2. are being achieved, and contains the following:

(1) Use of a five year averaging period (aka, the VMP Study) to verify the full-scale performance of all BTA measures specified in Condition B.2. The average estimated reductions in impingement mortality and entrainment shall be based on:

i) a minimum two years of additional in-plant impingement and entrainment monitoring,
ii) existing in-plant impingement and entrainment monitoring data,
iii) actual water use at the station during the averaging period, and
iv) any other relevant information;

(2) A description of the frequency and duration of monitoring, the parameters to be monitored, and the basis for determining the parameters and the frequency and duration for monitoring;

(3) A schedule of implementation; and

(4) A draft proposed Standard Operation Procedure (SOP) that describes the sampling protocols for these monitoring studies.

The plan and SOP shall be updated as required by the Department. The permittee shall complete the VMP in accordance with the approved schedule. The VMP and approved schedule are enforceable conditions of this SPDES permit.

B. BIOLOGICAL MONITORING REQUIREMENTS (continued)

b. **A Draft report shall be submitted to the Steam Electric Unit Leader no later than 6 months after the completion of each year of the VMP Study**, summarizing results of the previous year of study.

c. Within **6 months of the completion of the VMP Study, the permittee must submit an approvable report to the Steam Electric Unit Leader that demonstrates compliance with Condition B.2.** of this permit and 316(b) of the Clean Water Act. If the VMP study shows that compliance with Condition B.2. has not been met, then the report shall propose additional mitigative measures, including the use of modified Ristroph type screens, to meet the Performance Standards in Condition B.2. The implementation schedule requires approval by the Department and shall be an enforceable condition of this permit.

5. **Additional Reporting Requirements**

a. The permittee must maintain records of all data, reports and analysis pertaining to compliance with 6NYCRR Part 704 and Section 316(b) CWA for a period no less than 10 years from EDP (11/01/2012).

b. **The permittee must submit status reports at EDP + 2.5 years (11/01/2014) and ExDP (10/31/2017).** At a minimum, these status reports must include a description of the operational status of the facility during the preceding two years and compliance with Condition B.2. through B.5. of this permit.

6. Modification of the facility cooling water intake must not occur without prior Department approval. The permittee must submit written notification, including detailed descriptions and plans, to the NYSDEC Steam Electric Unit; the Director of the Bureau of Water Compliance Program; and both the Regional Permit Administrator and the Regional Water Engineer, Region 2, at least 60 days prior to any proposed change which would result in the alteration of the permitted operation, location, design, construction or capacity of the cooling water intake structure. The permittee must submit with the written notification a demonstration that the change reflects the best technology available for minimizing adverse environmental impacts pursuant to 6 NYCRR Part 704.5 and Section 316(b) of the Clean Water Act. As determined by NYSDEC, a permit modification application in accordance with 6 NYCRR Part 621 may be required.

C. SPECIAL CONDITIONS - INDUSTRY BEST MANAGEMENT PRACTICES

1. **General** - The permittee shall develop, maintain, and implement a Best Management Practices (BMP) plan to prevent releases of significant amounts of pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and stormwater discharges including, but not limited to, drainage from raw material storage.

   The BMP plan shall be documented in narrative form and shall include the 13 minimum BMPs and any necessary plot plans, drawings, or maps. Other documents already prepared for the facility such as a Safety Manual or a Spill Prevention, Control and Countermeasure (SPCC) plan may be used as part of the plan and may be incorporated by reference. A copy of the current BMP plan shall be submitted to the Department as required in item (2.) below and a copy must be maintained at the facility and shall be available to authorized Department representatives upon request.

2. **Compliance Deadlines - The Permittee has already developed and implemented the BMP plan.** The BMP plan shall be reviewed annually and shall be modified whenever: (a) changes at the facility materially increase the potential for releases of pollutants, (b) actual releases indicate the plan is inadequate, or (c) a letter from the Department identifies inadequacies in the plan. The permittee shall certify in writing, as an attachment to the December Discharge Monitoring Report (DMR), that the annual review has been completed. All BMP plan revisions (with the exception of SWPPPs - see item (4.B.) below) must be submitted to the Regional Water Manager within 30 days. Note that the permittee is not required to obtain Department approval of the BMP plan (or of any SWPPPs) unless notified otherwise. Subsequent modifications to or renewal of this permit does not reset or revise these deadlines unless a new deadline is set explicitly by such permit modification or renewal.

3. **Facility Review** - The permittee shall review all facility components or systems (including but not limited to material storage areas; in-plant transfer, process, and material handling areas; loading and unloading operations; storm water, erosion, and sediment control measures; process emergency control systems; and sludge and waste disposal areas) where materials or pollutants are used, manufactured, stored or handled to evaluate the potential for the release of pollutants to the waters of the State. In performing such an evaluation, the permittee shall consider such factors as the probability of equipment failure or improper operation, cross-contamination of storm water by process materials, settlement of facility air emissions, the effects of natural phenomena such as freezing temperatures and precipitation, fires, and the facility's history of spills and leaks. The relative toxicity of the pollutant shall be considered in determining the significance of potential releases.

   The review shall address all substances present at the facility that are identified in Tables 6-10 of SPDES application Form NY-2C (available at *http://www.dec.state.ny.us/website/dcs/permits/olpermits/form2c.pdf*) or that are required to be monitored for by the SPDES permit.

4. A. **13 Minimum BMPs** - Whenever the potential for a release of pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to prevent or minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider good industry practices and, where appropriate, structural measures such as secondary containment and erosion/sediment control devices and practices. USEPA guidance for development of stormwater elements of the BMP is available in the September 1992 manual *Storm Water Management for Industrial Activities,* EPA 832-R-92-006 (available from NTIS, 703-487-4650, order #PB 92235969 or at http://cfpub.epa.gov/npdes/stormwater/swppp-msgp.cfm). As a minimum, the plan shall include the following BMPs:

   1. BMP Pollution Prevention Team
   2. Reporting of BMP Incidents
   3. Risk Identification & Assessment
   4. Employee Training
   5. Inspections and Records
   6. Security
   7. Preventive Maintenance
   8. Good Housekeeping
   9. Materials/Waste Handling, Storage, & Compatibility
   10. Spill Prevention & Response
   11. Erosion & Sediment Control
   12. Management of Runoff
   13. Street Sweeping

   Note that for some facilities, especially those with few employees, some of the above BMPs may not be applicable. It is acceptable in these cases to indicate "Not Applicable" for the portion(s) of the BMP Plan that do not apply to your facility, along with an explanation.

C. SPECIAL CONDITIONS - INDUSTRY BEST MANAGEMENT PRACTICES (continued)

B. **Stormwater Pollution Prevention Plans (SWPPPs) Required for Discharges of Stormwater From Construction Activity to Surface Waters** - As part of BMP #11, a SWPPP shall be developed prior to the initiation of any site disturbance of one acre or more of uncontaminated area. Uncontaminated area means soils or groundwater which are free of contamination by any toxic or non-conventional pollutants identified in Tables 6-10 of SPDES application Form NY-2C. Disturbance of any size contaminated area(s) and the resulting discharge of contaminated stormwater is not authorized by this permit unless the discharge is under State or Federal oversight as part of a remedial program or after review by the Regional Water Manager; nor is such discharge authorized by any SPDES general permit for stormwater discharges. SWPPPs are not required for discharges of stormwater from construction activity to groundwaters.

The SWPPP shall conform to the *New York Standards and Specifications for Erosion and Sediment Control* and *New York State Stormwater Management Design Manual,* unless a variance has been obtained from the Regional Water Manager, and to any local requirements. The permittee shall submit a copy of the SWPPP and any amendments thereto to the local governing body and any other authorized agency having jurisdiction or regulatory control over the construction activity **at least 30 days prior to soil disturbance**. The SWPPP shall also be submitted to the Regional Water Manager if contamination, as defined above, is involved and the permittee must obtain a determination of any SPDES permit modifications and/or additional treatment which may be required prior to soil disturbance. Otherwise, the SWPPP shall be submitted to the Department only upon request. When a SWPPP is required, a properly completed *Notice of Intent* (NOI) form shall be submitted (available at *www.dec.state.ny.us/website/dow/toolbox/swforms.html*) prior to soil disturbance. Note that submission of a NOI is required for informational purposes; the permittee is not eligible for and will not obtain coverage under any SPDES general permit for stormwater discharges, nor are any additional permit fees incurred. SWPPPs must be developed and submitted for subsequent site disturbances in accordance with the above requirements. The permittee is responsible for ensuring that the provisions of each SWPPP is properly implemented.

5. **Required Sampling For "Hot Spot" Identification** - Development of the BMP plan shall include sampling of waste stream segments for the purpose of pollutant "hot spot" identification. The economic achievability of effluent limits will not be considered until plant site "hot spot" sources have been identified, contained, removed or minimized through the imposition of site specific BMPs or application of internal facility treatment technology. For the purposes of this permit condition a "hot spot" is a segment of an industrial facility (including but not limited to soil, equipment, material storage areas, sewer lines etc.) which contributes elevated levels of problem pollutants to the wastewater and/or stormwater collection system of that facility. For the purposes of this definition, problem pollutants are substances for which treatment to meet a water quality or technology requirement may, considering the results of waste stream segment sampling, be deemed unreasonable. For the purposes of this definition, an elevated level is a concentration or mass loading of the pollutant in question which is sufficiently higher than the concentration of that same pollutant at the compliance monitoring location so as to allow for an economically justifiable removal and/or isolation of the segment and/or B.A.T. treatment of wastewaters emanating from the segment.

6. **Facilities with Petroleum and/or Chemical Bulk Storage (PBS and CBS) Areas** - Compliance must be maintained with all applicable regulations including those involving releases, registration, handling and storage (6 NYCRR 595-599 and 612-614). Stormwater discharges from handling and storage areas should be eliminated where practical.

A. Spill Cleanup - All spilled or leaked substances must be removed from secondary containment systems as soon as practical and for CBS storage areas within 24 hours unless written authorization is received from the Department. The containment system must be thoroughly cleaned to remove any residual contamination which could cause contamination of stormwater and the resulting discharge of pollutants to waters of the State. Following spill cleanup the affected area must be completely flushed with clean water three times and the water removed after each flushing for proper disposal in an on-site or off-site wastewater treatment plant designed to treat such water and permitted to discharge such wastewater. Alternately, the permittee may test the first batch of stormwater following the spill cleanup to determine discharge acceptability. If the water contains no pollutants it may be discharged. Otherwise it must be disposed of as noted above. See *Discharge Monitoring* below for the list of parameters to be sampled for.

C. SPECIAL CONDITIONS - INDUSTRY BEST MANAGEMENT PRACTICES (continued)

B. Discharge Operation - Stormwater must be removed before it compromises the required containment system capacity. Each discharge may only proceed with the prior approval of the permittee staff person responsible for ensuring SPDES permit compliance. Bulk storage secondary containment drainage systems must be locked in a closed position except when the operator is in the process of draining accumulated stormwater. Transfer area secondary containment drainage systems must be locked in a closed position during all transfers and must not be reopened unless the transfer area is clean of contaminants. Stormwater discharges from secondary containment systems should be avoided during periods of precipitation. A logbook shall be maintained on site noting the date, time and personnel supervising each discharge.

C. Discharge Screening - Prior to each discharge* from a secondary containment system the stormwater must be screened for contamination. All stormwater must be inspected for visible evidence of contamination. Additional screening methods shall be developed by the permittee as part of the overall BMP Plan, e.g. the use of volatile gas meters to detect the presence of gross levels of gasoline or volatile organic compounds. If the screening indicates contamination, the permittee must collect and analyze a representative sample** of the stormwater. If the water contains no pollutants it may be discharged. Otherwise it must either be disposed of in an on site or off site wastewater treatment plant designed to treat and permitted to discharge such wastewater or the Regional Water Manager can be contacted to determine if it may be discharged without treatment.

D. Discharge Monitoring - Unless the discharge from any bulk storage containment system outlet is identified in the SPDES permit as an outfall with explicit effluent and monitoring requirements, the permittee shall monitor the outlet as follows:

(i) *Bulk Storage Secondary Containment Systems:*

(a) The volume of each discharge from each outlet must be monitored. Discharge volume may be calculated by measuring the depth of water within the containment area times the wetted area converted to gallons or by other suitable methods. A representative sample shall be collected of the first discharge* following any cleaned up spill or leak. The sample must be analyzed for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(b) Every fourth discharge* from each outlet must be sampled for pH, the substance(s) stored within the containment area and any other pollutants the permittee knows or has reason to believe are present**.

(ii) *Transfer Area Secondary Containment Systems:*

The first discharge* following any spill or leak must be sampled for flow, pH, the substance(s) transferred in that area and any other pollutants the permittee knows or has reason to believe are present**.

E. Discharge Reporting - Any results of monitoring required above, excluding screening data, must be submitted to the Department by appending them to the corresponding DMR. Failure to perform the required discharge monitoring and reporting shall constitute a violation of the terms of the SPDES permit.

F. Prohibited Discharges - **In all cases, any discharge which contains a visible sheen, foam, or odor, or may cause or contribute to a violation of water quality is prohibited.** The following discharges are prohibited unless specifically authorized elsewhere in this SPDES permit: spills or leaks, tank bottoms, maintenance wastewaters, wash waters where detergents or other chemicals have been used, tank hydrotest and ballast waters, contained fire fighting runoff, fire training water contaminated by contact with pollutants or containing foam or fire retardant additives, and unnecessary discharges of water or wastewater into secondary containment systems.

* Discharge includes stormwater discharges and snow and ice removal. If applicable, a representative sample of snow and/or ice should be collected and allowed to melt prior to assessment.

** If the stored substance is gasoline or aviation fuel then sample for oil & grease, benzene, ethylbenzene, naphthalene, toluene and total xylenes (EPA method 602). If the stored substance is kerosene, diesel fuel, fuel oil, or lubricating oil then sample for oil & grease and polynuclear aromatic hydrocarbons (EPA method 610). If the substance(s) are listed in Tables 6-8 of SPDES application form NY-2C then sampling is required. If the substance(s) are listed in NY-2C Tables 9-10 sampling for appropriate indicator parameters may be required, e.g. BOD5 or toxicity testing. Contact the facility inspector for further guidance. In all cases flow and pH monitoring is required.

WATER TREATMENT CHEMICAL (WTC) REQUIREMENTS

New or increased use of a WTC requires prior DEC review and authorization. At a minimum, the permittee must notify the DEC in writing of its intent to change WTC use by submitting a completed WTCFX Form for each WTC. The DEC will review that submittal and determine if a SPDES permit modification is necessary or whether WTC review and authorization may proceed outside of the formal permit administrative process. **The majority of WTC authorizations do not require formal SPDES permit modification.** WTCs which are used in closed systems and cannot be discharged or those which are discharged to municipal STP do not require DEC review. **WTC use and discharge questions or requests for forms** should be directed to the DEC staff person who developed your SPDES permit. If you are not sure who that is, contact the DEC staff person who last inspected your facility.

Examples of WTCs include biocides, coagulants, conditioners, corrosion inhibitors, defoamers, flocculants, scale inhibitors, sequestrants, and settling aids. DEC staff may also direct you to use a WTCFX Form for review and authorization of substances other than WTCs, e.g. process chemicals.

The permittee must demonstrate that the use and discharge of any WTCs containing **phosphorus**, tributary to the Great Lakes Basin or other ponded waters, is necessary and that no acceptable alternatives exist. Please note that in some cases your permit may require modification to regulate phosphorus.

Generic WTC Usage Requirements

(b) WTC use shall not exceed the rate reported by the permittee or authorized below, whichever is less.

(c) The discharge shall not cause or contribute to a violation of water quality or an exceedance of ambient water quality criteria.

(d) **The permittee must maintain a logbook** of all WTC use, noting for each WTC the date, time, exact location, and amount of each dosage, and, the name of the individual applying or measuring the chemical. The logbook must also document that adequate process controls are in place to ensure that excessive levels of WTCs are not used and subsequently discharged through outfalls. The permittee shall retain the logbook data for a period of at least 5 years. This period may be extended by request of the DEC.

(e) **The permittee shall provide an annual report**, attached to the December DMR, containing the following information for each outfall: the current list of WTCs authorized for use and discharge by the DEC, for each WTC the amount in pounds used during the year, identification of authorized WTCs the permittee no longer uses, and any other pertinent information.

List of WTCs Authorized for Use and Discharge*

Affected Outfall(s)	Dosage (lbs/day) Avg	Max	WTC Manufacturer and Product Name	WTC Function
001 (via 01D & 01G)	10.8	52.3	Ashland, Amercor	Corrosion inhibitor
001 (via 01G)	2.3	11.3	ICL Performance Products, Disodium Phosphate	Scale inhibitor
001 (via 01G)	17.8	86.4	Ashland, Mekor 6701	Corrosion inhibitor
001 (via 01H)	844	2552	Basic Chemical Solutions, Sodium Hydroxide 50%	Demineralizer regeneration
001 (via 01H)	995	3069	Basic Chemical Solutions, Sulfuric Acid 97%	Demineralizer regeneration
001 (via 01G)	9.9	48	ICL Performance Products, Trisodium Phosphate	Scale inhibitor

* - Authorized WTCs must either be listed above or identified in a letter sent to the permittee by the DEC subsequent to issuance of this permit page. In cases where a WTC is listed above and in a letter from the DEC, the more recent document will control.

DISCHARGE NOTIFICATION REQUIREMENTS

(a) Except as provided in (c) and (f) of these Discharge Notification Act requirements, the permittee shall install and maintain identification signs at all outfalls to surface waters listed in this permit. Such signs shall be installed before initiation of any discharge.

(b.) Subsequent modifications to or renewal of this permit does not reset or revise the deadline set forth in (a) above, unless a new deadline is set explicitly by such permit modification or renewal.

(c.) The Discharge Notification Requirements described herein do not apply to outfalls from which the discharge is composed exclusively of storm water, or discharges to ground water.

(d) The sign(s) shall be conspicuous, legible and in as close proximity to the point of discharge as is reasonably possible while ensuring the maximum visibility from the surface water and shore. The signs shall be installed in such a manner to pose minimal hazard to navigation, bathing or other water related activities. If the public has access to the water from the land in the vicinity of the outfall, an identical sign shall be posted to be visible from the direction approaching the surface water.

The signs shall have **minimum** dimensions of eighteen inches by twenty four inches (18" x 24") and shall have white letters on a green background and contain the following information:

N.Y.S. PERMITTED DISCHARGE POINT

SPDES PERMIT No.: NY_____

OUTFALL No. :____

For information about this permitted discharge contact:

Permittee Name: _____

Permittee Contact: _____

Permittee Phone: ( ) - ### - ####

(e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of this permit. This repository shall be open to the public, at a minimum, during normal daytime business hours. The repository may be at the business office repository of the permittee or at an off-premises location of its choice (such location shall be the village, town, city or county clerk's office, the local library or other location as approved by the Department). In accordance with the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page of your permit, each DMR shall be maintained on record for a period of three years.

(f) If, upon November 1, 1997, the permittee has installed signs that include the information required by 17-0815-a(2)(a) of the ECL, but do not meet the specifications listed above, the permittee may continue to use the existing signs for a period of up to five years, after which the signs shall comply with the specifications listed above.

(g) The permittee shall periodically inspect the outfall identification signs in order to ensure that they are maintained, are still visible and contain information that is current and factually correct.

SCHEDULE OF COMPLIANCE

a) The permittee shall comply with the following schedule:

Action Code	Outfall Number(s)	Compliance Action	Due Date
	NA	Submit an approvable report to demonstrate compliance in accordance with permit condition in Biological Monitoring Requirement B.4.c.	VMP Study Completion + 6 months

The above compliance actions are one time requirements. The permittee shall comply with the above compliance actions to the Department's satisfaction once. When this permit is administratively renewed by NYSDEC letter entitled "SPDES NOTICE/RENEWAL APPLICATION/PERMIT", the permittee is not required to repeat the submission. The above due dates are independent from the effective date of the permit stated in the letter of "SPDES NOTICE/RENEWAL APPLICATION/PERMIT."

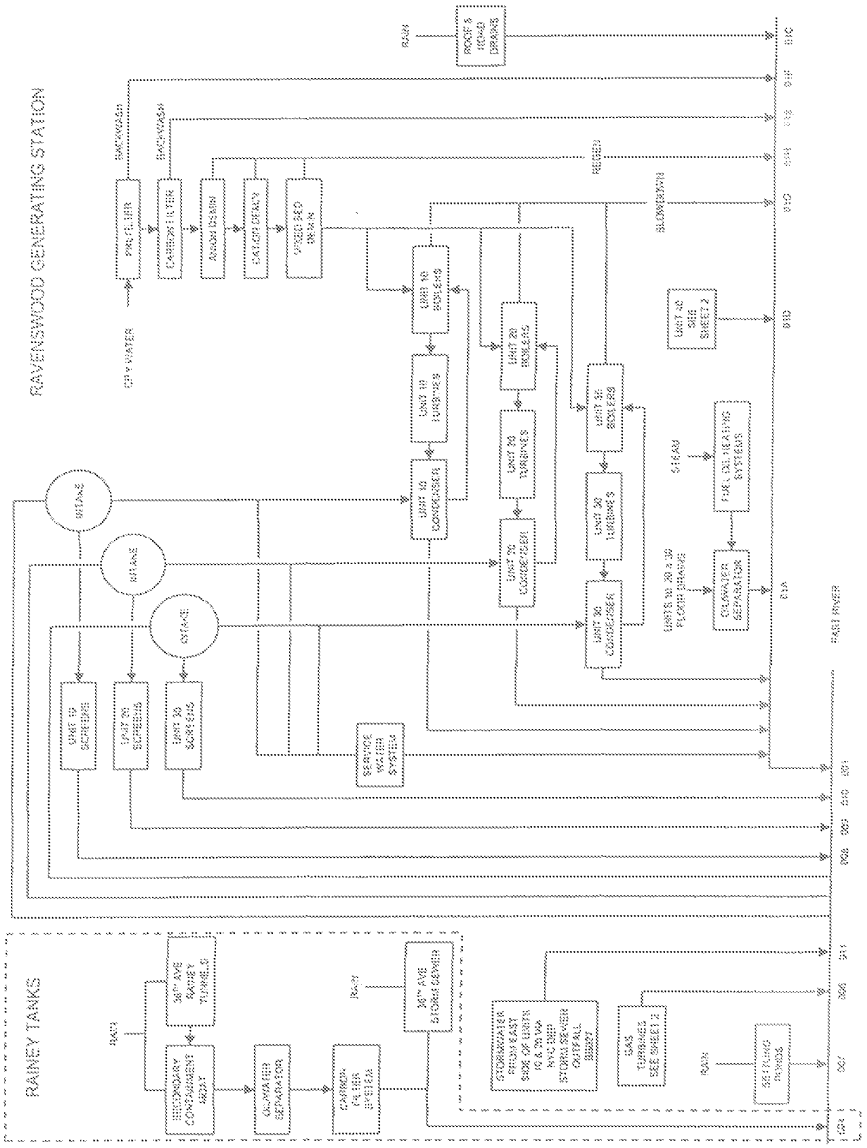
b) The permittee shall submit a written notice of compliance or non-compliance with each of the above schedule dates no later than 14 days following each elapsed date, unless conditions require more immediate notice as prescribed in 6 NYCRR Part 750-1.2(a) and 750-2. All such compliance or non-compliance notification shall be sent to the locations listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS. Each notice of non-compliance shall include the following information:

1. A short description of the non-compliance;
2. A description of any actions taken or proposed by the permittee to comply with the elapsed schedule requirements without further delay and to limit environmental impact associated with the non-compliance;
3. A description or any factors which tend to explain or mitigate the non-compliance; and
4. An estimate of the date the permittee will comply with the elapsed schedule requirement and an assessment of the probability that the permittee will meet the next scheduled requirement on time.

c) The permittee shall submit copies of any document required by the above schedule of compliance to NYSDEC Regional Water Manager at the location listed under the section of this permit entitled RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS and to the Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505, unless otherwise specified in this permit or in writing by the Department.

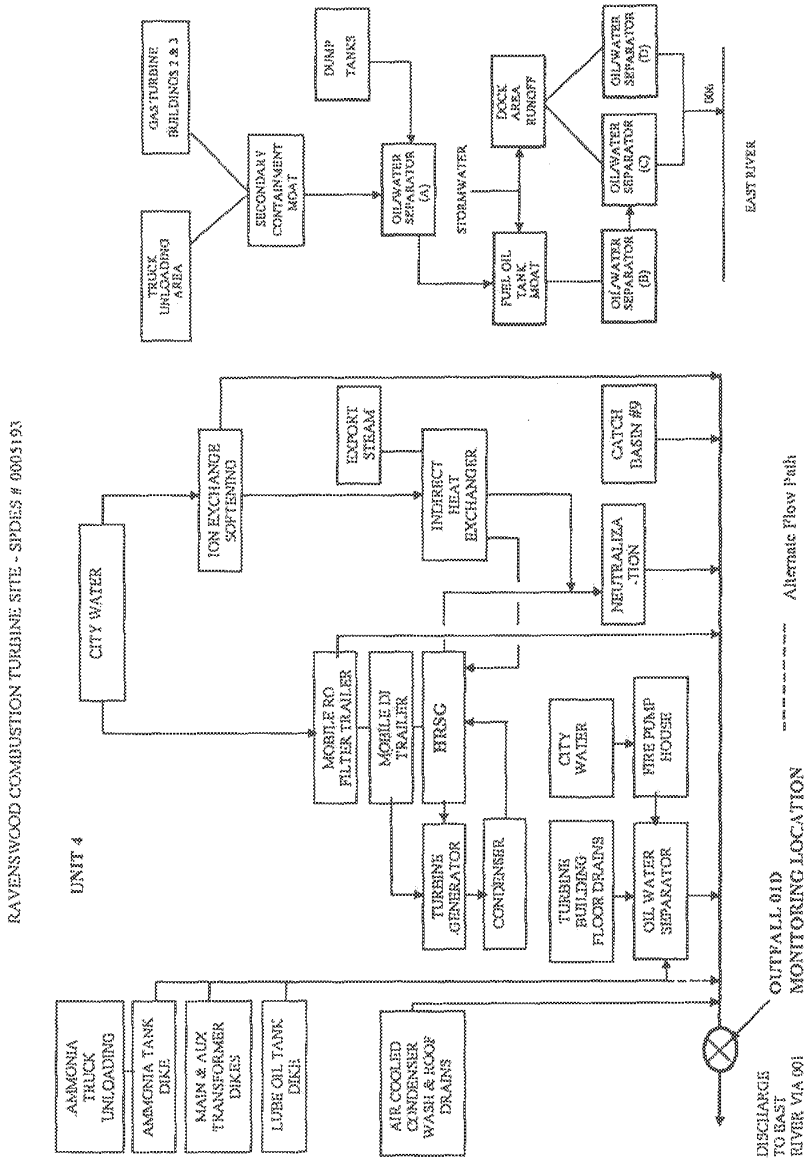
MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below.



MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) specified below:



RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

a) 6 NYCRR Part 750 is hereby incorporated by reference and its conditions are enforceable requirements of this permit. The permittee shall comply with all conditions set forth in this permit and with 6 NYCRR Part 750, including, but not limited to: additional monitoring and reporting requirements and conditions, including noncompliance reporting.

b) The monitoring information required by this permit shall be summarized, signed and retained for a period of at least five years from the date of the sampling for subsequent inspection by the Department or its designated agent. **Also, monitoring information required by this permit shall be summarized and reported by submitting;**

[X] (if box is checked) completed and signed Discharge Monitoring Report (DMR) forms for each __1__ month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.

[ ] (if box is checked) an annual report to the Regional Water Engineer at the address specified below. The annual report is due by February 1 each year and must summarize information for January to December of the previous year in a format acceptable to the Department.

[ ] (if box is checked) a monthly "Wastewater Facility Operation Report..." (form 92-15-7) to the:
[ ] Regional Water Engineer and/or [ ] County Health Department or Environmental Control Agency specified below

Send the **original** (top sheet) of each DMR page to:
Department of Environmental Conservation
Division of Water, Bureau of Water Compliance
625 Broadway, Albany, New York 12233-3506
Phone: (518) 402-8177

Send an **additional copy** of each DMR page to:

Send the **first copy** (second sheet) of each DMR page to:
Department of Environmental Conservation
Regional Water Engineer, Region 2
One Hunters Point Plaza
47-20 21st Street
Long Island City, New York 11101
Phone: (718) 482-4930

c) Monitoring and analysis shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

d) More frequent monitoring of the discharge(s), monitoring point(s), or waters of the State than required by the permit, where analysis is performed by a certified laboratory or where such analysis is not required to be performed by a certified laboratory, shall be included in the calculations and recording of the data on the corresponding DMRs.

e) Calculations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

f) Unless otherwise specified, all information recorded on the DMRs shall be based upon measurements and sampling carried out during the most recently completed reporting period.

g) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section 502 of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be directed to the New York State Department of Health, Environmental Laboratory Accreditation Program.

A-180

RAVENSWOOD LETTER REGARDING CORRECTED ANNUAL WATER WITHDRAWAL REPORTS, DATED DECEMBER 18, 2013 [A-180 - A-181]

HISCOCK & BARCLAY LLP

Danielle E. Mettler
Associate

December 18, 2013

Carol Conyers, Esq.
Office of General Counsel
New York State Department
of Environmental Conservation
625 Broadway,
Albany, NY 12233-1750

Re: Corrected Annual Water Withdrawal Reports 2009-2011
Ravenswood Generating Station
Water Withdrawal Permit (# 2-6304-00024/00054)

Dear Ms. Conyers,

As you know, we represent TC Ravenswood L.L.C ("Ravenswood") on the above referenced Water Withdrawal Permit (the "Permit") issued by the New York State Department of Environmental Conservation ("NYSDEC" or the "Department") on November 15, 2013.

As we discussed, the Annual Water Withdrawal Reports ("Annual Reports") submitted for the years 2009-2011 inadvertently omitted the water withdrawals for the low pressure saltwater cooling system from the maximum water withdrawal capacity calculations. As provided in the enclosed Professional Engineering certification, the low pressure saltwater cooling system has been a part of the Ravenswood Generating Station cooling system for over thirty (30) years. Please accept the enclosed corrected Annual Reports to replace those previously submitted by Ravenswood.

The following is a summary of the Ravenswood Generating Station water withdrawal sources, including the low pressure salt water cooling system:

Unit 10
- (2) Circulating Water Pumps (107,000 GPM each)
- (2) Low Pressure Salt Water Pumps (16,000 GPM each)

Unit 20
- (2) Circulating Water Pumps (107,000 GPM each)
- (2) Low Pressure Salt Water Pump (16,000 GPM each)

Unit 30 East River Intake
- (2) Circulating Water Pumps (268,500 GPM each)
- (2) Low Pressure Salt Water Pumps (16,000 GPM each)

Maximum Capacity of All Water Withdrawal Pumps: 1,061,000 GPM (1,527.84 MGD)
Maximum Capacity of Circulating Water Pumps ONLY: 965,000 GPM (1,389.6 MGD)

Ravenswood has been working collaboratively with the Department for years to install equipment to reduce its water withdrawals. Ravenswood's installation of variable speed equipment on the circulating water pumps has reduced Ravenswood's water withdrawals to the extent that, during normal operations, Ravenswood can operate well below the maximum capacity. However, the maximum water withdrawal capacity of 1,527.84 MGD is necessary to maintain the reliability of the electrical grid and to provide critical electric generation during natural disasters or other emergencies. This was exemplified during and in the aftermath of Superstorm Sandy, when Ravenswood provided approximately 50% of New York City's electric load, requiring all units to generate at maximum capacity. Accordingly, Ravenswood's water withdrawal was also at its maximum capacity during portions of this period.

Thank you for your attention to this matter. Please contact us if you have any questions or would like to discuss further.

Very truly yours,

Danielle E. Mettler

Danielle E. Mettler

cc: M. Holt (NYSDEC Division of Water)
D. O'Donnell (TC Ravenswood L.L.C)

A-182

RAVENSWOOD PROFESSIONAL ENGINEER CERTIFICATION REGARDING MAXIMUM WATER WITHDRAWAL CAPACITY, DATED DECEMBER 17, 2013

TransCanada
In business to deliver

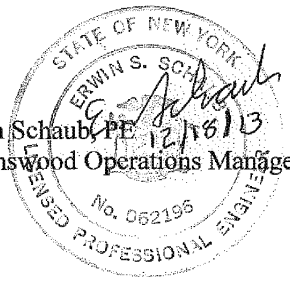
Erwin Schaub PE
38-54 Vernon Blvd.
Long Island City, NY 11101

December 17, 2013

Ravenswood Generating Station
Water Withdrawal Permit ID 2-6304-00024/00054

The low pressure salt water pumps at The Ravenswood Generating Station for Units 10, 20, and 30 are part of the initial installation of equipment dating back to 1962. The low pressure salt water pumps are not part of a new installation; they were incorporated in the initial design and specifications for the Ravenswood Generating Station.

The maximum water withdrawal capacity of the Ravenswood Generating Station, which is required for operation of the station without affect to its reliability, is 1,527.84 million gallons per day, which includes withdrawals for the circulating water pumps and the low pressure salt water pumps.



Erwin Schaub, PE
Ravenswood Operations Manager

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

2011 Water Withdrawal Information Due By February 1st, 2012

Annual $50 fee (if applicable) submitted: Yes ☐ or N/A ☐
Prior to filling out this form please read the instructions on page 4

Facility Name: Ravenswood G.S.	Facility Street Address: 38-54 Vernon Blvd			Reporting year: 2011
City: Long Island City	Zip: 11101		Town: N/A	County: Queens
Contact Name: Daniel O'Donnell	Email: daniel_odonnell@transcanada.com		Contact Telephone: (718) 706-2818	
Source Name: East River	Source Type: S	Well Depth:	Max Rate: 1,527.84	Units MGD
Source Name: NYC DEP	Source Type: P	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
For additional source listings, check this box ☐ and go to page 3		If an "interbasin diversion" occurs, check this box ☐ and go to page 3		
2011 Ave Day Withdrawal: 583.8 MGD	2011 Max Day Withdrawal: 1,527.84 MGD		Max Potential Withdrawal Rate, or DEC permit rate 1,527.84 MGD	
Submitted by:		Title: Mgr EO Chemistry	Date: 12/10/2013	

Water Withdrawal Category (check all that apply)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☒ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production
- Power Production:
  - ☒ Fossil Fuel
  - ☐ Nuclear
  - ☐ Other Pwr:
- ☐ Public Water Supply
- Recreation:
  - ☐ Golf Course
  - ☐ Snow Making
  - ☐ Other Rec:
- ☐ Other:

Reset Form | Print Form | Submit by Email

If you do not wish to submit this form via email, you may fill it out, then print and mail it to the address shown at the top of the page. Don't forget to fill out pages 2 and 3. Please include the $50 fee if applicable.

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Use this page to report actual usage for the past year

Calculation Method: P (See instructions/definitions on p.4) **For Public Water Supplies Only** -- Population Served: _____ Percent Water Unaccounted For: ____ %

UNITS: Must be gallons per month	January	February	March	April	May	June
Withdrawn	6,004,100,000	6,157,400,000	7,375,700,000	19,418,400,000	16,035,800,000	34,770,200,000
Transferred / Imported	13,672,241	10,667,418	9,741,032	16,351,070	14,869,385	16,386,887
Consumed	11,855,502	8,448,881	8,093,718	13,244,741	12,244,133	12,938,206
Returned	6,005,916,739	6,159,618,537	7,377,347,314	19,421,506,329	16,038,425,252	34,773,648,681
Diversions In/Out if any	0	0	0	0	0	0
Describe location of returned water	Water returned via SPDES outfall 001, 008, 009 and 010					
UNITS: Must be gallons per month	July	August	September	October	November	December
Withdrawn	35,235,500,000	29,975,000,000	25,613,700,000	19,433,200,000	7,218,400,000	5,865,800,000
Transferred / Imported	19,575,367	14,377,080	14,709,603	14,310,816	12,277,596	10,058,481
Consumed	16,567,206	11,852,787	12,435,670	12,244,026	10,615,603	9,559,560
Returned	35,238,508,107	29,977,524,293	25,615,973,933	19,435,266,790	7,220,061,993	5,867,138,252
Diversions In/Out if any	0	0	0	0	0	0

Go to Page 1 to submit form by email

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Please see instructions on page 4

Additional Water Sources - Include Source Name, Source Type, Well Depth (if a well), Source Capacity with units used.

Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:

Interbasin Diversions - Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, click the box highlighted in blue ("Click Here To Determine Basin ID"). Enter basin ID. Describe location of originating and receiving sites. (e.g. Town water intake on Smith Lake to Jones Reservoir).

Originating Major Drainage Basin			Receiving Major Drainage Basin	
Click Here To Determine Basin ID	Enter Basin ID Here	→	Click Here To Determine Basin ID	Enter Basin ID Here
Originating Site:		→	Receiving Site:	
		→		

Go to Page 1 to submit form by email

INSTRUCTIONS / DEFINITIONS

Annual Reporting Fee	$50 per year for all uses except for agricultural or public water supply. Please make all checks payable to "NYSDEC". Mail to the address shown at the top of the form.
Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products.
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well. SP = Spring. P = Purchased
Max Potential Withdrawal Or Permitted Withdrawal	For public supplies show DEC permitted withdrawal rate. All others show absolute maximum rate that can be withdrawn.
Units, Source	Gallons per minute (gpm), gallons per day (gpd) or million gallons per day (mgd).
Well Name	Name of well water source (e.g. Well No.1, Main Street well).
Well Type	Rock vs. unconsolidated (sand and gravel) well.
Average Day Withdrawal	Total amount withdrawn during the past year, divided by total days withdrawn (e.g. 365,000,000 gallons / 365 days = 1 mgd).
Maximum Day Withdrawal	Largest single day withdrawal rate (e.g. 2.65 mgd) of the source during the past year.
Calculation Method	M - metered readings. W - flow through a weir or flume. P - flow through a pump or pump run time. E - estimated
Withdrawn	Amount of water removed from the source.
Transferred/Imported	Amount of water brought in from or sent to another facility. Includes bulk sales. For Transferred water, use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customer.
Returned	Amount of water discharged back to the environment or a wastewater system.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Examples: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use internet link (labelled "Click Here To Determine Basin ID") and enter ID into box indicated. Describe location of originating withdrawal and receiving discharge. Be as specific as possible.

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New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

2010 Water Withdrawal Information due by February 1st, 2011

Annual $50 fee (if applicable) submitted: Yes ☐ or N/A ☐
Prior to filling out this form please read the instructions on page 4

Facility Name: Ravenswood G.S.	Facility Street Address: 38-54 Vernon Blvd.			Reporting year: 2010
City: Long Island City	Zip: 11101		Town:	County: Queens
Contact Name: Daniel O'Donnell	Email: daniel_odonnell@transcanada.com		Contact Telephone: (718) 706-2818	
Source Name: East River	Source Type: S	Well Depth:	Max Rate: 1,527.84 Units MGD	
Source Name: NYC DEP	Source Type: P	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
Source Name:	Source Type:	Well Depth:	Max Rate: Units	
For additional source listings, check this box ☐ and go to page 3		If an "interbasin diversion" occurs, check this box ☐ and go to page 3		
2010 Av Day Withdrawal: 667.2 MGD	2010 Max Day Withdrawal: 1,527.84 MGD		Max Potential Withdrawal Rate, or DEC permit rate: 1,527.84 MGD	
Submitted by:		Title: Mgr. E.O Chemistry	Date: 12/10/2013	

Water Withdrawal Category (check all that apply)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☒ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production
- Power Production:
  - ☒ Fossil Fuel
  - ☐ Nuclear
  - ☐ Other Pwr:
- ☐ Public Water Supply
- Recreation:
  - ☐ Golf Course
  - ☐ Snow Making
  - ☐ Other Rec:
- ☐ Other:

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If you do not wish to submit this form via email, you may fill it out, then print and mail it to the address shown at the top of the page. Don't forget to fill out pages 2 and 3. Please include the $50 fee if applicable.

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Use this page to report actual usage for the past year

Calculation Method: P (See instructions/definitions on p.4) **For Public Water Supplies Only** -- Population Served: _____ Percent Water Unaccounted For: _____ %

UNITS: Must be gallons per month	January	February	March	April	May	June
Withdrawn	3,054,200,000	8,695,800,000	14,635,800,000	15,601,000,000	27,482,400,000	37,969,200,000
Transferred / Imported	6,898,416	9,773,550	16,916,006	12,770,874	19,597,445	20,732,871
Consumed	5,711,414	8,304,893	15,085,359	10,661,569	16,696,774	17,972,247
Returned	3,055,387,002	8,697,268,657	14,637,630,647	15,603,109,305	27,485,300,671	37,971,960,624
Diversions In/Out if any						
Describe location of returned water	Water returned via SPDES outfalls 001, 008, 009 and 010					
UNITS: Must be gallons per month	July	August	September	October	November	December
Withdrawn	44,371,100,000	43,113,600,000	26,874,700,000	12,427,900,000	2,468,200,000	6,820,600,000
Transferred / Imported	22,292,459	24,448,482	24,132,436	7,088,369	5,753,790	7,570,858
Consumed	19,983,275	21,815,676	21,782,484	5,677,386	4,641,608	6,101,362
Returned	44,373,409,184	43,116,232,806	26,877,049,952	12,429,310,983	2,469,312,182	6,822,069,496
Diversions In/Out if any						

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New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Please see instructions on page 4

Additional Water Sources - Include Source Name, Source Type, Well Depth (if a well), Source Capacity with units used.

Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:
Source Name:	Source Type:	Well Depth:	Max Rate: Units:

Interbasin Diversions - Type name & location of the sites that are originating and receiving the water being transferred out of a major drainage basin. Consult drainage basin map to determine if an inter-basin diversion exists; map and definition of "major drainage basin" at DEC's Water Withdrawal Reporting webpage: http://www.dec.ny.gov/lands/55509.html

Originating Major Drainage Basin	Receiving Major Drainage Basin
	→
	→
	→

Go to Page 1 to submit form by email

INSTRUCTIONS / DEFINITIONS

Annual Reporting Fee	$50 per year for all uses except for agricultural or public water supply. Please make all checks payable to "NYSDEC". Mail to the address shown at the top of the form.
Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products.
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well. SP = Spring. P = Purchased
Max Potential Withdrawal Or Permitted Withdrawal	For public supplies show DEC permitted withdrawal rate. All others show absolute maximum rate that can be withdrawn.
Units, Source	Gallons per minute (gpm), gallons per day (gpd) or million gallons per day (mgd).
Well Name	Name of well water source (e.g. Well No.1, Main Street well).
Well Type	Rock vs. unconsolidated (sand and gravel) well.
Average Day Withdrawal	Total amount withdrawn during the past year, divided by total days withdrawn (e.g. 365,000,000 gallons / 365 days = 1 mgd).
Maximum Day Withdrawal	Largest single day withdrawal rate (e.g. 2.65 mgd) of the source during the past year.
Calculation Method	M - metered readings. W - flow through a weir or flume. P - flow through a pump or pump run time. E - estimated
Withdrawn	Amount of water removed from the source.
Transferred/Imported	Amount of water brought in from or sent to another facility. Includes bulk sales. For Transferred water, use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation).
Returned	Amount of water discharged back to the environment or a wastewater system.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Examples: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Only "Major Basin" transfers are required to be reported. Enter name & location of the sites that are oirginating AND receiving water being transferred out of a major drainage basin. Consult the drainage basin map at http://www.dec.ny.gov/lands/55509.html to determine if an inter-basin diversions exists.

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

~~2011~~ 2009 Water Withdrawal Information ~~Due By February 1st, 2012~~ cr

Annual $50 fee (if applicable) submitted: Yes ☐ or N/A ☐
Prior to filling out this form please read the instructions on page 4

Facility Name: Ravenswood G.S.	Facility Street Address: 38-54 Vernon Blvd			Reporting year: 2009
City: Long Island City	Zip: 11101		Town: N/A	County: Queens
Contact Name: Daniel O'Donnell	Email: daniel_odonnell@transcanada.com		Contact Telephone: (718) 706-2818	
Source Name: East River	Source Type: S	Well Depth:	Max Rate: 1,527.84	Units MGD
Source Name: NYC DEP	Source Type: P	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
Source Name:	Source Type:	Well Depth:	Max Rate:	Units
For additional source listings, check this box ☐ and go to page 3		If an "interbasin diversion" occurs, check this box ☐ and go to page 3		
~~2007~~ ~~2011~~ Ave Day Withdrawal: 568.8 MGD	~~2009~~ ~~2011~~ Max Day Withdrawal: 1,504.8 MGD		Max Potential Withdrawal Rate, or DEC permit rate 1,527.84 MGD	
Submitted by:		Title: Mgr EO Chemistry	Date: 12/10/2013	

Water Withdrawal Category (check all that apply)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☒ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production
- Power Production:
  - ☒ Fossil Fuel
  - ☐ Nuclear
  - ☐ Other Pwr:
- ☐ Public Water Supply
- Recreation:
  - ☐ Golf Course
  - ☐ Snow Making
  - ☐ Other Rec:
- ☐ Other:

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If you do not wish to submit this form via email, you may fill it out, then print and mail it to the address shown at the top of the page. Don't forget to fill out pages 2 and 3. Please include the $50 fee if applicable.

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Use this page to report actual usage for the past year

Calculation Method: P (See instructions/definitions on p.4) **For Public Water Supplies Only** -- Population Served: _____ Percent Water Unaccounted For: ____ %

UNITS: Must be gallons per month	January	February	March	April	May	June
Withdrawn	8,418,200,000	8,833,000,000	6,022,100,000	7,269,000,000	21,284,600,000	29,116,800,000
Transferred / Imported	12,258,304	9,076,975	10,683,768	11,317,559	12,842,171	18,354,960
Consumed	10,300,558	7,460,477	9,068,109	9,551,539	13,591,687	14,646,072
Returned	8,420,157,746	8,834,616,498	6,023,715,659	7,270,766,020	21,287,144,196	29,119,487,242
Diversions In/Out if any	0	0	0	0	0	0
Describe location of returned water	Water returned via SPDES outfall 001, 008, 009 and 010					
UNITS: Must be gallons per month	July	August	September	October	November	December
Withdrawn	18,819,400,000	41,229,400,000	21,179,500,000	11,607,000,000	19,853,300,000	13,988,800,000
Transferred / Imported	15,645,738	26,964,723	14,873,131	14,907,119	13,136,392	11,582,228
Consumed	17,686,038	12,956,337	13,528,428	13,327,842	11,699,419	9,559,560
Returned	18,821,535,443	41,232,301,990	21,181,718,897	11,608,433,885	19,855,142,277	13,990,725,731
Diversions In/Out if any	0	0	0	0	0	0

Go to Page 1 to submit form by email

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Please see instructions on page 4

Additional Water Sources - Include Source Name, Source Type, Well Depth (if a well), Source Capacity with units used.

Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:

Interbasin Diversions - Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, click the box highlighted in blue ("Click Here To Determine Basin ID"). Enter basin ID. Describe location of originating and receiving sites. (e.g. Town water intake on Smith Lake to Jones Reservoir).

Originating Major Drainage Basin			Receiving Major Drainage Basin	
Click Here To Determine Basin ID	Enter Basin ID Here	→	Click Here To Determine Basin ID	Enter Basin ID Here
Originating Site:		→	Receiving Site:	
		→		

Go to Page 1 to submit form by email

INSTRUCTIONS / DEFINITIONS

Annual Reporting Fee	$50 per year for all uses except for agricultural or public water supply. Please make all checks payable to "NYSDEC". Mail to the address shown at the top of the form.
Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products.
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well. SP = Spring. P = Purchased
Max Potential Withdrawal Or Permitted Withdrawal Units, Source	For public supplies show DEC permitted withdrawal rate. All others show absolute maximum rate that can be withdrawn. Gallons per minute (gpm), gallons per day (gpd) or million gallons per day (mgd).
Well Name	Name of well water source (e.g. Well No.1, Main Street well).
Well Type	Rock vs. unconsolidated (sand and gravel) well.
Average Day Withdrawal	Total amount withdrawn during the past year, divided by total days withdrawn (e.g. 365,000,000 gallons / 365 days = 1 mgd).
Maximum Day Withdrawal	Largest single day withdrawal rate (e.g. 2.65 mgd) of the source during the past year.
Calculation Method	M - metered readings. W - flow through a weir or flume. P - flow through a pump or pump run time. E - estimated
Withdrawn	Amount of water removed from the source.
Transferred/Imported	Amount of water brought in from or sent to another facility. Includes bulk sales. For Transferred water, use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customer.
Returned	Amount of water discharged back to the environment or a wastewater system.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Examples: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use internet link (labelled "Click Here To Determine Basin ID") and enter ID into box indicated. Describe location of originating withdrawal and receiving discharge. Be as specific as possible.

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DEC NOTICE REGARDING CORRECTION TO RAVENSWOOD INITIAL PERMIT, DATED FEBRUARY 19, 2014 [A-195 - A-196]

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, NY 12233-1750
Phone: (518) 402-9167 • **Fax:** (518) 402-9168
Website: www.dec.ny.gov

Joe Martens
Commissioner

CERTIFIED MAIL RETURN RECEIPT REQUESTED

February 19, 2014

Mr. Ken Yager
Ravenswood Generating Station
38-54 Vernon Boulevard
Long Island City, NY 11101

Re: Notice of Intent to Modify
DECID# 2-6304-00024/00054
Ravenswood Generating Station
Correction to Initial Water Withdrawal Permit

Dear Mr. Yager;

On December 18, 2013 the Department received a letter and supporting documentation from Danielle Mettler to Carol Conyers of our Office of General Council, providing additional corrected information as to the actual equipment in operation at the facility in 2011. Previously submitted reports omitted existing low pressure salt water pumps that are part of the initial design and specifications for the Ravenswood Generating Station.

Based upon the new information provided, the Department has determined it is necessary to modify the above referenced permit by correcting the maximum permitted withdrawal from 1,390 MGD to 1,527.84 MGD.

If we do not hear from you within 15 days, we will assume that you have no objection to the revised amount, and we will issue you a revised permit. If you have any objection to these revisions, you may either contact us to discuss your objections, and/or you may request a hearing, by writing to the Chief Permit Administrator at the above address within 15 days of the date of this letter. Your request must contain specific reasons why you believe these revised conditions should not be included in your permit. If you have any questions or would like to discuss this further, please feel free to contact me.

Should TC Ravenswood LLC have no objection to the modification you may countersign below and return a copy for our records. The revised permit would be issued upon our receipt of your response.

Sincerely,

Kent P. Sanders
Deputy Chief Permit Administrator
Division of Environmental Permits

Cc: C. Conyers Esq. NYSDEC OGC
M. Holt Div. of Water

TC Ravenswood LLC has no objection to the modification of the Initial Water Withdrawal Permit for the Ravenswood Generating Station correcting the Maximum daily withdrawal to 1,527.84 MGD.

Signature
Kenneth Yager
Compliance Manager

Date: 2/27/2014

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DEC COVER LETTER FOR CORRECTED RAVENSWOOD INITIAL PERMIT, DATED MARCH 7, 2014

New York State Department of Environmental Conservation
Division of Environmental Permits, 4th Floor
625 Broadway, Albany, NY 12233-1750
Phone: (518) 402-9167 • **Fax:** (518) 402-9168
Website: www.dec.ny.gov

Joe Martens
Commissioner

March 7, 2014

Mr. Daniel O'Donnell
TC Ravenswood LLC.
38-55 Vernon Boulevard
Long Island City, NY 11101

RE: DEC #2-6304-0002400054
Ravenswood Generating Station
38-54 Vernon Blvd, Queens County

Dear Mr. O'Donnell;

The Department Initiated Modification of your facility's Initial Water Withdrawal Permit is enclosed. The maximum withdrawal has been corrected from 1,390 MGD to 1,527.84 MGD. All other permit terms and conditions remain in effect. This permit will run concurrently with the facilities SPDES Permit (NY-0005193) and **expire on October 31, 2017**. Withdrawals beyond the scope of the permit and the approved project plans may be considered a violation of the law and subject to appropriate enforcement action.

Also note that this permit does not eliminate the need to obtain any other federal, state or local permits or approvals that may be required for this project.

Should you have any questions regarding your obligations under the permit, please feel free to contact me by phone at (518) 402-9178 or by email at kpsander@gw.dec.state.ny.us.

Sincerely,

Kent P. Sanders
Deputy Chief Permit Administrator

Enclosures: Permit
cc: M. Holt, DOW
C. Conyers, OGC

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 2-6304-00024

PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
TC RAVENSWOOD LLC
110 TURNPIKE RD STE 203
WESTBOROUGH, MA 01581
(508) 871-1850

Facility:
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Facility Location: in QUEENS COUNTY **Village:** Long Island City
Facility Principal Reference Point: NYTM-E: 588.961 NYTM-N: 4512.613
Latitude: 40°45'34.8" Longitude: 73°56'45.8"
Project Location: 38-54 Vernon Boulevard
Authorized Activity: This permit authorizes the withdrawal of a supply of water up to 1,527,840,000 gallons per day (GPD) from the East River for once through cooling and other processes related to electrical generation.

Permit Authorizations

Water Withdrawal Non-public - Under Article 15, Title 15
Permit ID 2-6304-00024/00054 (WWA No. I 1,660)

New Permit	Effective Date: 11/15/2013	Expiration Date: 10/31/2017
Modification # 1	Effective Date: 3/7/2014	Expiration Date: 10/31/2017

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KENT P SANDERS, Deputy Chief Permit Administrator
Address: NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233

Authorized Signature: Kent P. Sanders Date 3/7/2014

Permit Components

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

1. **Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.

2. **Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.

3. **Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.

4. **Cooling Water Withdrawals Regulated by SPDES** Nothing in this water withdrawal permit shall supercede the need to, where necessary, obtain an appropriate SPDES permit that allows for the operation of a cooling water intake structure and the discharge of the amounts of water approved by this water withdrawal permit. If any modifications to the location, or capacity of the intake structure are required by the permittee's SPDES permit, permittee must also apply for a modification of this water withdrawal permit to reflect such changes.

5. **Incorporation of the SPDES Water Conservation and Fisheries Protection Measures** Required measures for water conservation and the reduction of impacts to the fisheries resource contained in the Biological Monitoring Requirement Section of the facilities SPDES permit # NY0005193 are hereby incorporated by reference into this permit.

6. **Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY. by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.

7. **Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.

8. **Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Deputy Chief Permit Administrator
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY12233

4. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to

the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

A-202

RAVENSWOOD GENERATING STATION ("RAVENSWOOD") INITIAL WATER WITHDRAWAL PERMIT ("2013 PERMIT") APPLICATION, DATED MAY 31, 2013 [A-202 - A-236]

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

May 2013

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME TC Ravenswood LLC

2. FACILITY NAME Ravenswood Generating Station

3. PROJECT TYPE
☑ Water Withdrawal
☐ New Public Water Supply Service Area or Extension
☐ Land Acquisition for Public Water Supply
☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE
☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☐ Cooling ☐ Industrial
☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☑ Power Production ☐ Recreational
☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New
If this is an existing public water supply, provide the most recent WSA or WWA Number:
If other than public water supply, list other existing or pending related DEC permits (e.g., SPDES, Mining, Dam):
SPDES NY 0005193

6. WATER WITHDRAWAL SOURCE ☑ Surface Water ☐ Groundwater
Water Body Name(s): East River
Nearest Surface Water Body:
Distance From Well (in feet):

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 1,534,752,00 gallons per day Source Name: East River
Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes
If yes, ☐ Existing ☐ New From Basin: To Basin:

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	Not Applicable	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	Not Applicable
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	See Figure # 1	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	Not Applicable
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	See Figure #'s 1 & 2	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	Not Applicable
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	Not Applicable	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	See Section (K)
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	See Appendix A	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	Not Applicable
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	See Appendix B	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	See Section M
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	See Appendix C	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	Not applicable

Clear Form

Applicant Signature:

Name: Kenneth Yager

Title: Compliance Manager

Date: 5/31/2013

NYCRR Part 601
Water Withdrawal Permit Application
601.10 Requirements

(a) Project Authorization
The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. The current facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. The water withdrawal system is not a public supply system and is not applicable to the requirements set forth in subpart (a).

(b) General Map
See Drawing # 1-Ravenswood Generating Station General Map.

(c) Watershed Maps
See Drawing # 2- Watershed maps

(d) Contract Plans
No contract plans exist for the water withdrawal system. The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility.

(e) Engineer's Report
See Appendix A- Engineer's Report

(f) Water Conservation Program
See Appendix B-Water Conservation Form

(g) Annual Water Withdrawal Report
See Appendix C- 2012 Water Withdrawal Report

(h) Acquisition Maps
The water withdrawal system is an existing system that was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. Land acquisition maps are not required for the existing water withdrawal system.

(i) Water Analyses
The water withdrawal system is not a public supply system and chemical and bacteriological analyses are not performed. Therefore, Ravenswood is not applicable to the requirements set forth in subpart (i).

(j) Treatment Methods

The water withdrawal system is not a public supply system required to meet Department of Health standards and is therefore not applicable to the requirements set forth in subpart (j).

(k) Project Justification

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for Units 10, 20 & 30 is currently withdrawn from the East River through intake structures and is routed through steam surface condensers.. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed to back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River The siting of the electric generating facility along the East River is ideal due to the plentiful surface water supply for once through cooling. The East River's mean tidal flow is about 240,000 cubic feet per second (1.79 million gallons per second) allowing for Ravenswood to adequately and reasonably withdraw and return the necessary water for cooling.

The installation of variable frequency drives (VFD) on the circulating water pumps (CWP) has allowed for vast conservation improvements and an overall reduction in water withdrawn from the East River. The installation of VFDs has reduced electricity consumed by the CWP while in VFD operation due to the slower motor speeds. More importantly, the installation of VFDs has led to a considerable overall reduction in the volume of surface water withdrawn from the East River. The upgrades performed on the CWPS have directly made the water withdrawal system an environmentally sound and economically feasible project. In addition to the conservation of water withdrawn from the East River, the VFDs installed on the CWPs have also helped reduce the overall adverse environmentally impact associated with the impingement and entrainment of marine organisms. The volume of water withdrawn is directly proportional to the number of organisms impinged and entrained. A flow reduction achieved by the use of variable speed pumps has a proportional reduction to impinged and entrained organisms. The installation and implementation of VFDs is projected to reduce impingement mortality and entrainment of organisms by 90% and 65% from baseline, respectively. The current water withdrawal system utilized at Ravenswood complies with the various federal, state, and local laws.

(l) Canal Withdrawal Approval

The water withdrawal system is not located on a canal and is therefore not applicable to the requirements set forth in subpart (l).

(m)Transmittal Letter

(1)

Applicant:
TC Ravenswood LLC
Kenneth Yager
38-54 Vernon Blvd.
Long Island City, NY 11101

Engineer:
Erwin Schaub, P.E.
38-54 Vernon Blvd.
Long Island City, NY 11101

(2) If required, a public venue will be determined at the appropriate time.

(3) Publications in local newspapers for facility permits are published in the 'Daily News'.

(n) Great Lakes-St. Lawrence River Basin
The water withdrawal system is not located within the Great Lakes or St. Lawrence River basin and is therefore not applicable to the requirements set forth in subpart (n).

Appendix A

A-207

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

Professional Engineer's Certification

Name: Erwin Schaub
Firm: TC Ravenswood LLC
Address: 38-54 Vernon Blvd
Long Island City, New York 11101

Signature: _____

A-208

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

1. **General description of the project and the engineering features of the existing water withdrawal system.**

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for units 10, 20, and 30 is withdrawn from the East River through intake structures and is routed through steam surface condensers. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River. Unit 40 and the simple cycle gas turbines do not utilize a once through cooling water system.

Condenser cooling water and service water for units 10, 20 and 30 is drawn into a protected embayment and intake structure. Units 10 and 20 each have four water intakes bays; two bays provide water to each circulator. Unit 30 has six intake bays; three bays provide water to each circulator. Wooden debris skimmers (ice breakers) are located at the entrance to each intake bay to prevent floating material from entering the bays. The continuous traveling water screens (3/8 inch square mesh) are equipped with high pressure (screen wash) spray systems to wash off impinged fish, crabs, and debris from the riverside of the screen. The wash water and impinged material is then diverted back to the East River though low stress fish return piping.

Each of the three units is equipped with two motor driven circulating water pumps. At Units 10 and 20; each pump has a rated capacity of 107,000 gallons per minute (GPM). Unit 30 pumps are rated at 268,500 GPM. Each motor has been retrofitted with variable frequency drives (VFD). A VFD is a device that rectifies 60 cycle AC current to direct current. Then using insulated gate bipolar transistors (IGBT's), converts the DC supply to a square wave alternating supply at adjustable frequency. This causes the motor to operate at variable speeds. The VFD allows the facility to decrease the circulating water pump motor speed and consequently proportionately decrease the circulating water flow. Operation at less than full flow capacity directly relates to conservation.

A service water system (Low Pressure Salt Water Pumps) also provides water from the East River for cooling small equipment throughout the facility and

E.S.

turbine-generator cooling. Units 10 and 20 each have a Low Pressure Salt Water Pump with a shared spare and unit 30 has three Low Pressure Salt Water Pumps.

2. **A listing of all existing sources of water supply, including wells, surface withdrawals, and any purchases sales or transfer of water.**

Existing Source	Water Supply
11 Circulating Water Pump	Surface-East River
12 Circulating Water Pump	Surface-East River
21 Circulating Water Pump	Surface-East River
22 Circulating Water Pump	Surface-East River
31 Circulating Water Pump	Surface-East River
32 Circulating Water Pump	Surface-East River
11 Low Pressure Salt Water Pump	Surface-East River
21 Low Pressure Salt Water Pump	Surface-East River
1-2 Low Pressure Salt Water Pump	Surface-East River
31 Low Pressure Salt Water Pump	Surface-East River
32 Low Pressure Salt Water Pump	Surface-East River
33 Low Pressure Salt Water Pump	Surface-East River
Unit 10, 20, & 30 Screen Wash Pumps (5)	Surface-East River
Water Meter House 1, 2, 3 & 4	Purchase - NYCDEP

3. **Evaluation of a practicable alternative to the proposed source shall include an analysis of increased water conservation measures as a means to reduce or eliminate the need for the proposed source.**

Cooling water is a critical component to the production of electricity at the station. Total elimination of cooling water is not a practical alternative. However, conservation methods are a viable option that has been implemented at the facility in order to reduce cooling water withdrawn from the East River. Circulating Water Pumps (CWP) have been retrofitted with VFDs to allow for reduced surface water withdrawal at reduced generation loading and reduced cooling water temperatures. An analysis of the first ten months of cooling water withdrawal from the East River was performed on the CWPs with VFD operation. The average hourly CWP GPM was calculated by utilizing continuously recorded motor speeds. The hourly CWP GPM was then compared to average CWP GPM if VFDs had not been installed (full flow operation). The difference between the two averages was then used to determine the water conservation directly related to the retrofit of the CWP on a daily basis for all units. Monthly averages are shown below. The overall reduction in surface water withdrawn from the East River is significantly reduced with the use of VFD operation of the CWPs. The conservation methods utilized at Ravenswood have directly led to substantial conservation of surface water and have been adequately implemented.

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	Unit 10			Unit 20			Unit 30			
	Unit 10 CWP AVG. GPM with VFD Operation	Unit 10 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 20 CWP AVG. GPM with VFD Operation	Unit 20 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 30 CWP AVG. GPM with VFD Operation	Unit 30 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	AVG. Water Withdrawal Conservation All Units (GPD)
July 2012	151,030	179,484	40,973,475	157,429	189,839	46,670,534	338,158	450,387	161,609,894	249,253,904
August 2012	155,883	202,536	38,956,157	167,411	189,839	32,295,838	165,404	225,194	86,096,285	157,348,281
Sept 2012	121,097	168,290	27,961,262	158,758	175,253	23,753,039	22,658	24,587	2,777,300	54,491,601
October 2012	168,933	193,290	35,074,172	52,196	65,581	19,274,255	364,899	537,000	247,826,058	302,174,485
November 2012	103,902	189,072	8,469,802	131,006	160,890	43,032,785	325,356	389,758	92,738,741	144,241,328
December 2012	214,000	214,000	0	43,808	55,226	16,441,232	0	0	0	16,441,232
January 2013	107,490	214,000	34,087,195	86,162	177,103	114,502,914	0	0	0	148,590,109
February 2013	24,563	34,516	10,485,108	2,779	5,713	3,693,642	77,542	138,581	87,895,382	102,074,132
March 2013	0	0	0	123,081	186,387	91,160,256	0	0	0	91,160,256
April 2013	9,107	20,710	17,264,262	95,504	192,400	139,530,196	0	0	0	156,237,546

4. **For public water supply systems, the present and projected population of the water service area and the present and projected consumption rate.**

   Not applicable to Ravenswood Generating Station.

5. **For public water supply systems, the radius of land owned or controlled for wellhead protection surrounding any proposed groundwater withdrawal, or the water quality classification and a copy of any Department of Health Watershed Rules and Regulations for any proposed surface withdrawal.**

   Not applicable to Ravenswood Generating Station.

6. **The general-character and extent and essential design features of proposed controlling, diverting or regulatory works.**

   Implementation of site specific procedures on the operation of the CWPs has been employed at the site. Personnel are trained in the operation of the equipment and are instructed on CWP speeds for maximum conservation of water withdrawal.

7. **The proposed instantaneous and maximum daily rates of withdrawal; the existing and projected daily average, daily maximum, and 30 day maximum water demands of the withdrawal system;**

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2012 Maximum daily withdrawal rate	1,534.75 MGD
2012 Existing Daily Average	486.49 MGD
Projected Daily Average	486.49 MGD
Daily Maximum	1,489.70 MGD
2012 30 Day Maximum Demand	27,933.85 MG30DAY

8. **When applicable, any fire suppression flows which can be supplied, including the duration for which such flows can be maintained.**

   Water for fire suppression is fed from the city water supply (NYC DEP). The city water system supplies the suction to fire pumps which discharge to various fire protection systems located at the facility.

Fire Protection System	Flow
Dock Foam Fire Suppression System	3,000 GPM
GT Foam Fire Suppression System	1,000 GPM
Unit 40 Fire Suppression system	3,000 GPM
10, 20 & 30 Standpipe Booster Pump	750 GPM
06 Tank Foam Fire Suppression System	500 GPM
Rainey Foam Fire Suppression System	1,000 GPM
10/20 Transformer Fire Suppression System	750 GPM

9. **For public water supply systems, the location, extent and character of proposed treatment.**

   Not applicable to Ravenswood Generating Station.

10. **For groundwater sources, well drinking logs, monitoring well locations and pump test data and analyses of results.**

    Not applicable to Ravenswood Generating Station.

11. **For surface water sources, information on rainfall, stream flows and classifications, contributing watershed size, location of nearby USGS stream gauges, other upstream water withdrawals, safe yield analysis or passby flow calculations and proposed withdrawal methods including intake structure design and screening.**

    The Hudson-Raritan Estuary System is a coastal plain estuary dominated by the drowned river valley of the Hudson River estuary. The estuary system extends 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The freshwater tributary to the estuary system drains a total of about 16,300 square miles. Seasonal and inter-annual variation of stream flow of the Hudson River recorded at Green Island, New York, near Troy (USGS gage 0 1358000) is characterized by high flow during March through May, with monthly mean peak flow of 32,719 cubic

feet per second (CFS). The mean oscillating tidal flow in the East River reaches about 240,000 CFS. The estuary system is comprised of all tidally inundated areas within these drainage basins including tidal straights; Harlem and East Rivers. The East River extends 16 miles from the battery to Throgs Neck and Willets Point at the Long Island Sound. The tidal straight is divided into distinct hydrological sections. The East River is narrow and bulk-headed along most of the length, and is divided into east and west channels where it passes Roosevelt Island. The station is located on the east channel from which the station withdraws its cooling water. Maximum river velocities are high, reaching 5.0 ft/sec. The station utilizes a once through cooling water system. The intake structures are recessed 60 feet inside the bulkhead line. Units 10 and 20 each have four water intake bays that measure 11.2 feet wide and by 17 feet deep at mean low water (MLW). Unit 30 has six intake bays that each measure 11.2 feet wide by 24 feet deep (MLW). The existing technology includes 14 vertical continuous traveling screens outfitted with 3/8 inch square mesh and high pressure wash to remove impinged material.

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Appendix B

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER SUPPLIES

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
***SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM**

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of supply will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Ravenswood Generating Station		**DEC No.**	
Street Address: 38-54 Vernon Blvd		**WWA No.**	
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Contact Name: Kenneth Yager			
Street Address: 38-54 Vernon Blvd			
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Applicant's Telephone: 7,187,062,702		**Contact's Telephone:** 7,187,062,702	

II. SOURCES OF WATER SUPPLY

[State capacity and withdrawal in gallons per minute (**gpm**), gallons per day (**gpd**), or million gallons per day (**mgd**).]

Source Type: S = Surface supply, G = Ground supply, P = Purchased supply
Source Status: R = Regular use, S = Standby use, E = Emergency use, I = Inactive, D = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
East River	S	R	1,534.75 MGD	486.49 MGD	1963
NYCDEP	P	R		0.455 MGD	

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters?	No
How often are they read? Service water meters are read monthly.	
How often are they calibrated? Meters are not calibrated at this time	
Are there secondary meters located within the facility or system? Yes	If yes, how many? 15
Describe secondary metering system if applicable: All incoming city water is metered by a NYC DEP service water meter. Inside the plant various secondary water meters are installed to determine water usage throughout the site. Surface water is withdrawn from the East River and flow rate is determined by pump speed.	

Water Production for Calendar Year		
Total metered water production:	177,570,461,410	gallons per year
Average day production (total/days of use):	486,494,415	gallons per day
Maximum day production (largest single day):	1,489,700,000	gallons per day

What are your future goals and schedule for water metering?
City water connections from the NYC DEP water system are currently metered to determine the total water purchased. Multiple water meters are installed throughout the facility and are read monthly to determine water usage at different parts of the steam-electric generation process. Currently, primary and secondary water meters are being reviewed to determine the best practice for calibration of these meters.

Best Management Practices:

** 100% metering of all sources of water supply.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

** Water Audit for Calendar Year

Total metered water production (from previous section)			Total	177,570,461,410	
Sources of Water Use		**Metered or Estimated?**			**% of Total**
Process Water		Metered	subtract	166,347,970	0.09
Cooling Water		Estimated	subtract	176,711,185,540	99.52
Wash Water			subtract		
Sanitary			subtract		
Incorporation into Product			subtract		
Irrigation			subtract		
Other	HP wash water for screens	Estimated	subtract	692,928,000	0.39
Other			subtract		
TOTAL UNACCOUNTED-FOR WATER			Sub-total	0	0
Unaccounted-for water breakdown	Meter under-registration		subtract	0	0
	Unrepaired leakage		subtract	0	
	Other:		subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html				0	

What are your future goals for water system auditing?
Continuation of monthly water meter readings by Performance Engineering Group. Water meter readings and site water usage is analyzed and compared to historical data.

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? No
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? No

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired

What are your future goals for water system leak detection and repair?
The site is continuously manned with personnel and water usage data is analyzed monthly. If a leak is detected in underground piping the leak is addressed as soon as possible.

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:

Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:

Describe any equipment or processes that promote the efficient use of water by your facility:
Variable Frequency Drives (VFD) are installed on the Circulating Water Pumps (CWP). The CWPs withdraw surface water from the East River for cooling. VFDs allow for the pumps to operate at less than full speed operation at reduced loads and cooler water temperatures. The reduced speed directly correlates to reduced water withdrawal.

Does your system include storage tanks or ponds to meet short term water demands?
Yes, demineralized water storage tanks are used.

Describe any actions that can be taken to reduce water use during times of drought:
VFD operation of the CWP in order to reduce surface water withdrawal.

What are your future goals for recycling or reducing water usage?
Continuing use of CWPs in VFD to reduce surface water withdrawal at reduced loads.

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

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VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Ravenswood Generating Station	WWA No.

Signature:	Signatory:
Title: Compliance Manager	Date: 5/31/2013

DISCUSSION:

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

Appendix C

New York State Department of Environmental Conservation

Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by March 31 each year

Prior to filling out this form please read the instructions on last page

(This form not for Agricultural Facilities)

Section 1

Reporting Year: 2012

Facility Name: Ravenswood Generating Station Facility Street Address: 38-54 Vernon Boulevard

City: Long Island City Zip: 11101 Town: County: Queens

Contact Name: Gregory Pryor Email: gregory_pryor@transcanada.com Telephone: (718) 706-2863

Source Name	Source Type	Well Depth	Ft	Max Rate	Units
East River	S			1,514.5	MGD
NYC DEP	P				GPM

If an interbasin diversion occurs, check this box ☐ and enter information in Section 3

Average Day Withdrawal: 486 MGD Maximum Day Withdrawal: 1,489.7 MGD Permitted Withdrawal: MGD

Submitted by: Gregory Pryor Title: Environmental Specialist Date: 1/11/2013

Water Withdrawal Category (check one)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☐ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production

Power Production:

- ☒ Fossil Fuel
- ☐ Nuclear
- ☐ Other Pwr:

- ☐ Public Water Supply

Recreation:

- ☐ Golf Course
- ☐ Snow Making
- ☐ Other Rec:

- ☐ Other:

Reset Form Print Form Submit by Email

If you do not receive a confirmation email, please contact AWQRSDEC@gw.dec.state.ny.us or 518 402-8086.

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AR-0000182

Section 2

Calculation Method: P

M = Metered readings. W = Flow through a weir or flume. P = Flow through a pipe or pump run time. E = Estimated.

UNITS: *Must be in gallons per month*	January	February	March	April	May	June
Withdrawn	4,180,896,000	2,783,808,000	11,009,952,000	8,614,800,000	10,453,248,000	14,111,136,720
Transferred / Imported	9,552,777	8,833,832	10,944,208	14,300,667	11,448,093	15,332,994
Consumed	8,160,434	7,446,808	8,048,021	12,381,599	9,174,934	13,485,679
Returned	4,165,584,343	2,778,859,024	10,952,368,187	8,580,431,068	10,412,897,159	14,065,752,035
Diversions In / Out if any	0	0	0	0	0	0

	July	August	September	October	November	December
Withdrawn	29,130,912,720	21,968,064,000	13,070,304,000	26,265,312,000	24,259,392,000	11,556,288,000
Transferred / Imported	19,580,467	15,648,019	10,588,747	18,948,492	19,466,268	11,703,408
Consumed	16,929,661	13,191,527	8,628,313	15,356,435	16,572,638	10,114,834
Returned	29,034,466,581	21,891,608,492	13,027,912,434	26,176,744,057	24,183,433,630	11,516,980,574
Diversions In / Out if any	0	0	0	0	0	0
Describe location of returned water	Water is returned to the East River via SPDES outfalls 001, 008, 009, and 010. These points are annotated as discharges 1-4 respectively on the attached map.					

Section 3

General Map Required

Please submit a map showing location of all withdrawals and any points of return flow. Label all points. **A map is not necessary if one was submitted in a previous year and no changes have occurred.** Precise locations will remain confidential.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. For electronic maps a suggested website is described below:

(1) Go to the USGS National Map site [http://usgs01.srv.mst.edu/store3/digital_download/mapping_ap.jsp].
Type the address of the agricultural facility into the search box.
(2) Zoom in and use any of the map-type choices to best confirm your location.
(3) Designate water withdrawal locations by clicking on the map to add a marker(s).
(4) For surface water withdrawals, use the "Topo" tab.
(5) Add a marker to designate the location of any related dams, weirs, or diversion structures.
(6) Print. Manually label the name of each marked source.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290.
- Print, scan and email to awqrsdec@gw.dec.state.ny.us.
- Copy electronically and email to awqrsdec@gw.dec.state.ny.us.

NOTE: Precise locations will be kept confidential.

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, click the link below, highlighted in blue. Enter basin ID where requested. Use drop down menu. Describe location of originating and receiving sites (e.g. Town water intake at north end of Pleasant Lake to southwestern corner of Stony Reservoir near Route 12).

Originating Major Drainage Basin http://www.dec.ny.gov/lands/56800.html	Receiving Major Drainage Basin http://www.dec.ny.gov/lands/56800.html
Enter Basin ID here:	Enter Basin ID here:
Originating Site Description:	Receiving Site Description:

Section 4

Water Conservation and Efficiencies

All permitted water withdrawal systems must have a Water Conservation Program.

Section A: For Permitted Public Water Supply Facilities Only - All others use Section B

Are all sources of supply including major interconnections equipped with master meters? ☐Yes ☐No

What percentage of your system is metered? ____ %. Residential charge per 1000 gallons of water: $ ____

How often were customer meters read this past year (e.g. quarterly, yearly)? ____

Number of water service connections: ____ Total population served: ____

How many customer meters were recalibrated and/or replaced in the past year? ____

Miles of pipe in water distribution system: ____ Length of pipe replaced in the past year: ____ ____

Miles of pipe on which leak detection was performed using sonic listening equipment: ____ Type of equipment used: ____

How many system-wide water audits were performed in the past year? ____

What percentage of the water withdrawn was not billed to customers? ____ %. Lost to distribution system leakage? ____ %

Was information about household water saving devices and ways to reduce water use distributed to residential customers? ☐Yes ☐No

Was water conservation information about promoting recycling and reuse distributed to industrial and commercial customers? ☐Yes ☐No

Do you have lawn sprinkling time restrictions (e.g. odd/even days) during periods of peak demand? ☐Yes ☐No

Do you have a plan that takes progressive steps to further reduce outdoor water use during drought conditions with an ordinance or procedure to assure compliance? ☐Yes ☐No

Please review your permit(s) for any specific water conservation conditions and report below on progress made in past year.

Section B: Water Withdrawal Reporting and Registered Facilities (see permitting schedule in **NYCRR Part 601.7**)

Are all sources of supply including major interconnections equipped with master meters? ☐Yes ☒No

How often were master meters read in the past year? Monthly

How often were master meters calibrated in the past year? 0

Are there secondary meters located within the facility or system? ☒Yes ☐No

Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station has conducted major capital upgrades on the circulating water system in order to retrofit circulating water pumps with variable speed drives and vacuum priming systems to allow for variable speed operation. The variable speed operation allows for reductions in water use during periods of reduced load, cool weather conditions, or when full circulating water flow is not required. The circulating water pumps take suction off the East River and provide once through cooling water for the condensers.

Section 5	Instructions / Definitions
Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled. "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased. Use drop down menu.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn (e.g., for a public water supply 365 million gallons/365 days = 1 mgd).
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Permitted Rate	If unknown, contact NYSDEC at AWQRSDEC@gw.dec.state.ny.us or 518-402-8182.
Calculation Method	M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. E = estimated.
Withdrawn	Amount of water removed from all sources.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers.
Returned	Amount of water discharged to a water treatment system or discharged back to the environment.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form (labeled "Click Here To Determine Basin ID") and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

Appendix D

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water withdrawal.

New York State

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/Threatened Species

☑ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☐ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☐ Nationwide Permit(s) - Identify Number(s): _____

Preconstruction Notification - ☐ Y / ☐ N

☐ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
  - ☐ Utility Easement (pipelines, conduits, cables, etc.)
  - ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)

TC Ravenswood LLC

Mailing Address: 38-54 Vernon Blvd.

Post Office City: Long Island City

State: NY Zip Code: 11101

Telephone (daytime): 718.706.2702

Email: Kenneth_Yager@transcanada.com

Applicant must be: (check all that apply)

- ☑ Owner
- ☐ Operator
- ☐ Lessee

Taxpayer ID (If applicant is NOT an individual): 11-3484082

6. Name of Facility or Property Owner (if different than Applicant)

Mailing Address:

Post Office City:

State: Zip Code:

Telephone (daytime): Email:

7. Contact/Agent Name

Kenneth Yager

Company Name: TC Ravenswood LLC

Mailing Address: 38-54 Vernon Blvd

Post Office City: Long Island City

State: NY Zip Code: 11101

Telephone (daytime): 718.706.2863

Email: Kenneth_Yager@transcanada.com

8. Project / Facility Name

Ravenswood Generating Station

Property Tax Map Section / Block / Lot Number: Block 357 Lot 1

Project Location - Provide directions and distances to roads, bridges and bodies of waters:

Ravenswood cooling water intakes located on the shoreline of the East River. North of the Queensboro Bridge and South of the Roosevelt Island Brdge.

Street Address, if applicable: 38-54 Vernon Blvd.

Post Office City: Long Island City State: NY Zip Code: 11101

Town / Village / City: Long Island City

County: Queens

Name of USGS Quadrangle Map: Central Park

Stream/Water Body Name: East River

Location Coordinates: Enter NYTMs in kilometers, **OR** Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude
		40 45' 41"	73 56' 39"

For Agency Use Only DEC Application Number: USACE Number:

JOINT APPLICATION FORM - PAGE 2 OF 2

Submit this completed page as part of your Application.

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

The Ravenswood Power Station has three electric generating units that utilize once through cooling water intake structure. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condensor to condense exausted steam from the low pressure turbine. Water withdrawn is then return to the East River via SPDES permit NY 0005193. No modifications or maintenance to the water withdrawal system is proposed.

Proposed Use: ☐ Private ☐ Public ☑ Commercial	Proposed Start Date:	Estimated Completion Date:

Has Work Begun on Project? ☑ Yes ☐ No If Yes, explain.

The Ravenswood Generating station has been in operation since 1963.

Will Project Occupy Federal, State or Municipal Land? ☐ Yes ☑ No If Yes, please specify.

10. List Previous Permit / Application Numbers (if any) and Dates:

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☑ Yes ☐ No If yes, please list:

NYCRR Part 601 Water Withdrawal Permit

12. **Signatures.** If applicant is not the owner, both must sign the application.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

	Printed Name	Title	Date
Signature of Applicant	Kenneth A Yager	Compliance Mgr.	5/31/2013
Signature of Owner			
Signature of Agent			

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Project Number _____

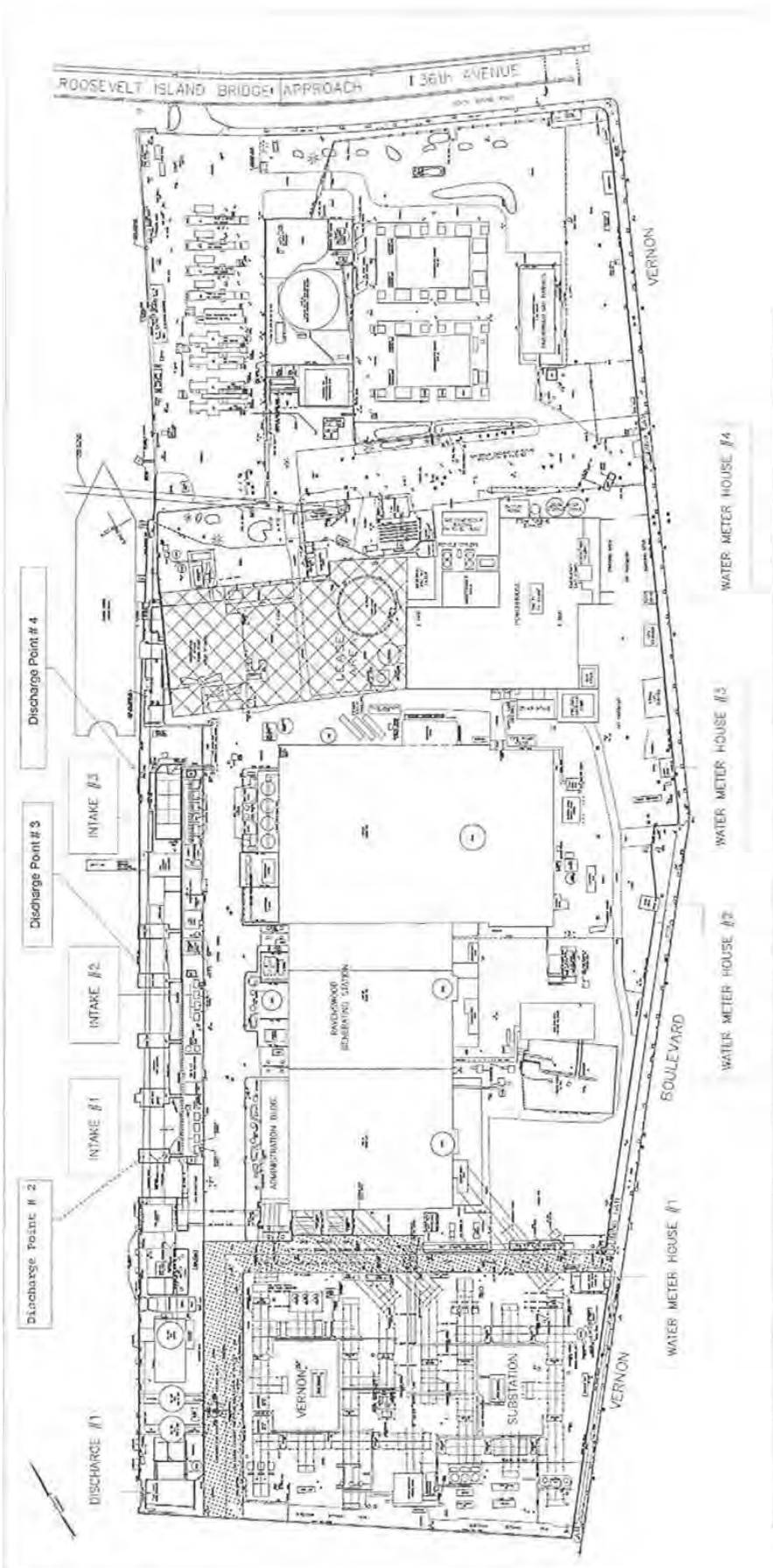
_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative: Name (printed) _____ Title _____

Signature _____ Date _____

Figure 1

Ravenswood Generating Station
General Map 601.10(b)



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

Figure 2

Source: USGS Central Park, NY-NJ 2013

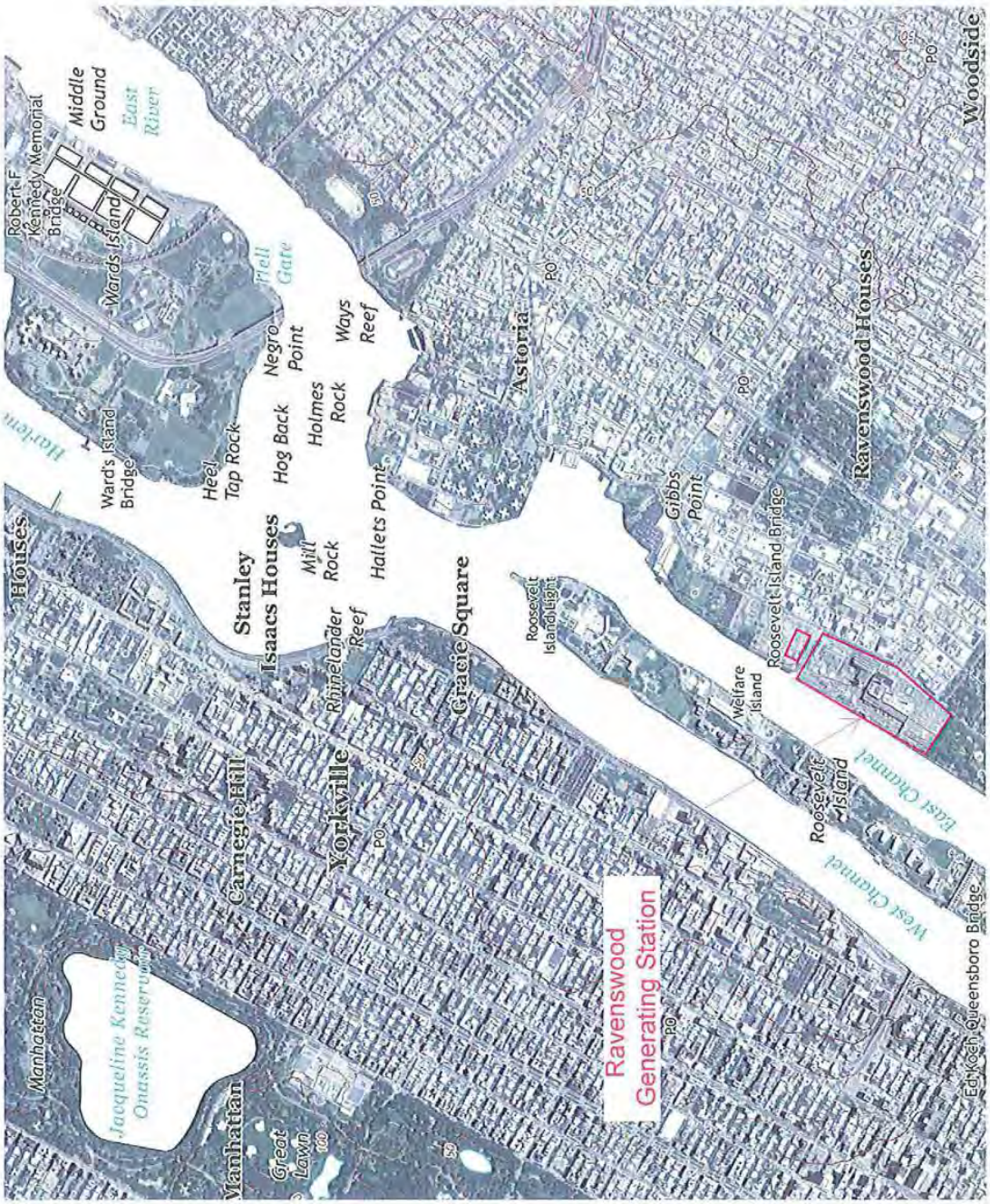

Ravenswood
Generating Station
Manhattan
Jacqueline Kennedy
Onassis Reservoir
Great
Lawn
Carnegie Hill
Yorkville
PO
Stanley
Isaacs Houses
Houses
Rhinelander
Reef
Gracie Square
Mill
Rock
Hallets Point
Hog Back
Holmes
Rock
Negro
Point
Ways
Reef
Hell
Gate
Heel
Tap Rock
Ward's Island
Bridge
Wards Island
Robert F
Kennedy Memorial
Bridge
Middle
Ground
East
River
Astoria
PO
Gibbs
Point
Roosevelt Island Bridge
Roosevelt Island Light
Welfare
Island
Roosevelt
Island
Ravenswood Houses
PO
Woodside
PO
East Channel
West Channel
Ed Koch Queensboro Bridge

Figure 3

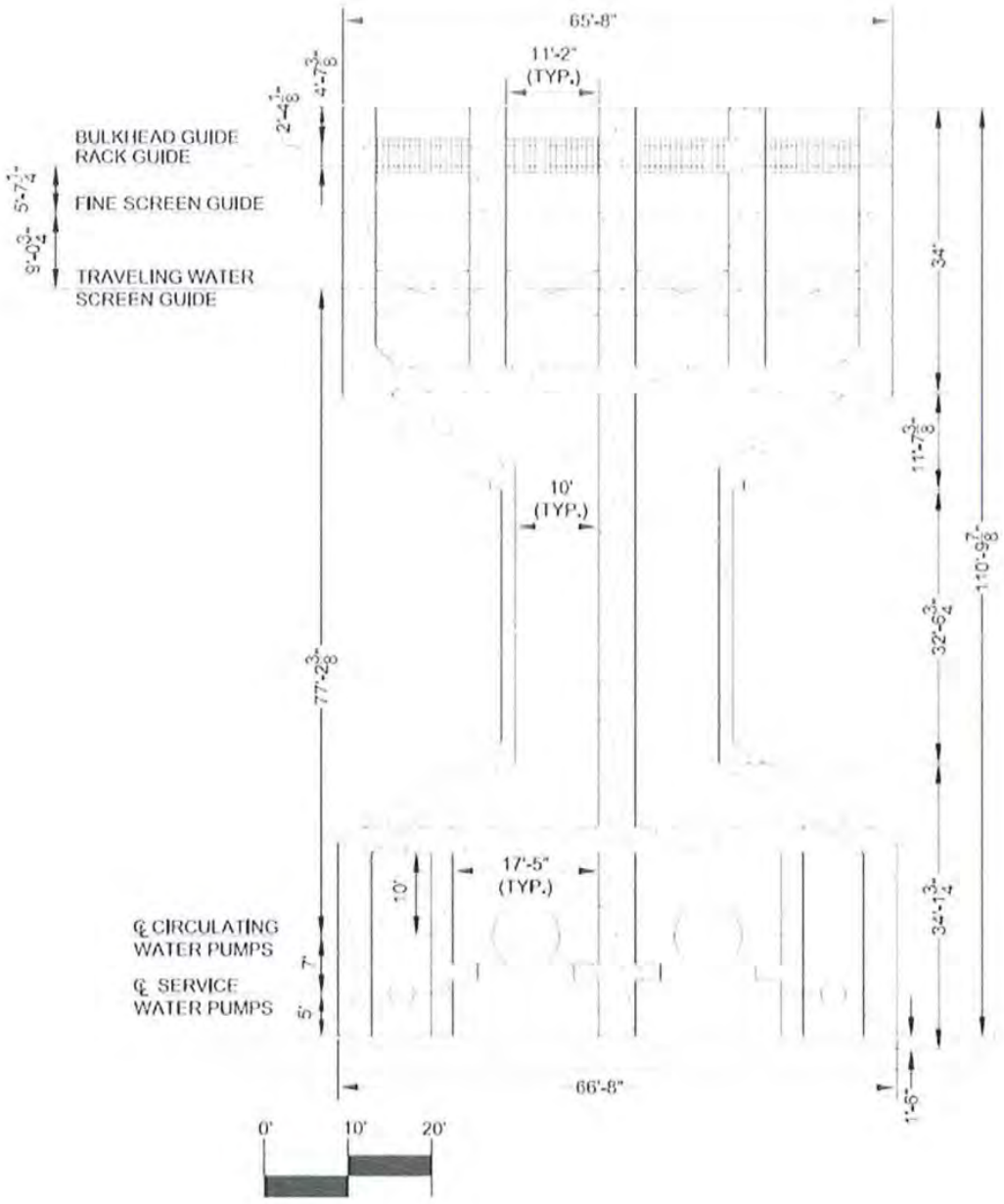


Figure 3 – Ravenswood Generating Station Unit 10 CWIS – Plan
(Unit 20 is Identical)

Figure 4

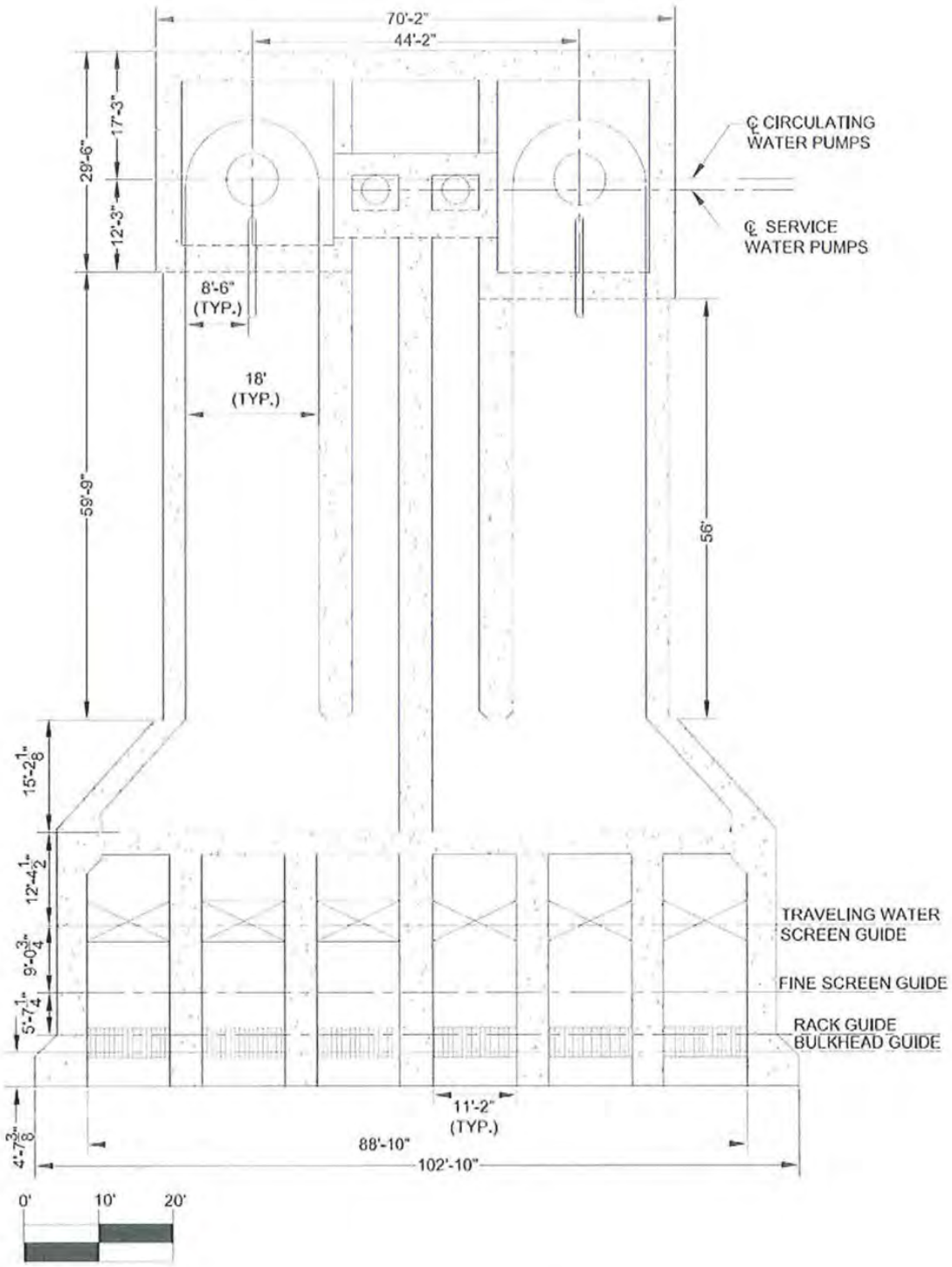


Figure 4 – Ravenswood Generating Station Unit 30 CWIS – Plan

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 2-6304-00024

PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
TC RAVENSWOOD LLC
110 TURNPIKE RD STE 203
WESTBOROUGH, MA 01581
(508) 871-1850

Facility:
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Facility Location: in QUEENS COUNTY **Village:** Long Island City
Facility Principal Reference Point: NYTM-E: 588.961 NYTM-N: 4512.613
Latitude: 40°45'34.8" Longitude: 73°56'45.8"
Project Location: 38-54 Vernon Boulevard
Authorized Activity: This permit authorizes the withdrawal of a supply of water up to 1,390,000,000 gallons per day (GPD) from the East River for once through cooling and other processes related to electrical generation.

Permit Authorizations

Water Withdrawal Non-public - Under Article 15, Title 15
Permit ID 2-6304-00024/00054 (WWA No. 11660)
New Permit Effective Date: 11/15/2013 Expiration Date: 10/31/2017

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KENT P SANDERS, Deputy Chief Permit Administrator
Address: NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY 12233

Authorized Signature: Kent P. Sanders Date 11/15/2013

Permit Components

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

1. **Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.

2. **Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.

3. **Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.

4. **Cooling Water Withdrawals Regulated by SPDES** Nothing in this water withdrawal permit shall supercede the need to, where necessary, obtain an appropriate SPDES permit that allows for the operation of a cooling water intake structure and the discharge of the amounts of water approved by this water withdrawal permit. If any modifications to the location, or capacity of the intake structure are required by the permittee's SPDES permit, permittee must also apply for a modification of this water withdrawal permit to reflect such changes.

5. **Incorporation of the SPDES Water Conservation and Fisheries Protection Measures** Required measures for water conservation and the reduction of impacts to the fisheries resource contained in the Biological Monitoring Requirement Section of the facilities SPDES permit # NY0005193 are hereby incorporated by reference into this permit.

6. **Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY. by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.

7. **Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.

8. **Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Deputy Chief Permit Administrator
NYSDEC HEADQUARTERS
625 BROADWAY
ALBANY, NY12233

4. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

A-241

RAVENSWOOD MODIFIED WATER WITHDRAWAL PERMIT APPLICATION, DATED APRIL 12, 2017 [A-241 - A-287]

Shirkey, Erin L (DEC)

RECEIVED
N.Y.S.D.E.C. - REGION 2
APR 12 2017
DIVISION OF
ENVIRONMENTAL PERMITS

From: Alita Giuda <agiuda@couchwhite.com>
Sent: Wednesday, April 12, 2017 6:12 PM
To: Watts, Stephen (DEC); dec.sm.DEP.R2
Cc: Kathy French; Shirkey, Erin L (DEC)
Subject: Water Withdrawal Permit Application - 2-6304-00024/00054
Attachments: Letter to Stephen Watts re. Water Withdrawal Permit (C0020396xE5E76).pdf

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good afternoon,

Attached please find a copy of the submission sent out by certified mail this afternoon to the Department regarding modification of the TC Ravenswood LLC Water Withdrawal permit. Please feel free to reach out to me directly anytime with any questions or should you need anything further for this process.

Thank you,
Alita

Alita J. Giuda, Esq.
Couch White, LLP
P.O. Box 22222
540 Broadway
Albany, New York 12201-2222
agiuda@couchwhite.com
www.couchwhite.com
O: 518-320-3414
F: 518-426-0376

COUCH WHITE, LLP
COUNSELORS AND ATTORNEYS AT LAW

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A-242

COUCH WHITE
COUNSELORS AND ATTORNEYS AT LAW

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Alita J. Giuda
Partner

Direct: (518) 320-3414
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RECEIVED
N.Y.S.D.E.C. - REGION 2

APR 12 2017

DIVISION OF
ENVIRONMENTAL PERMITS

April 12, 2017

BY MAIL AND ELECTRONIC MAIL

Stephen Watts
NYSDEC
One Hunters Point Plaza
47-40 21st Street
Long Island City, New York 11101-5407
Dep.r2@dec.ny.gov
stephen.watts@dec.ny.gov

RE: *Water Withdrawal Permit 2-6304-00024/00054*

Dear Mr. Watts:

This letter is being submitted in relation to the above-referenced permit held by TC Ravenswood LLC. In the near future, a transfer of all of the membership interests in TC Ravenswood LLC from TransCanada Facility USA, Inc. to my client, Helix Generation will occur. To address any necessary amendments to the above-referenced permit, based on our discussions with the Department it is our understanding that the following documents are required, and are being submitted with this letter: (1) a completed Joint Application Form, (2) a WWI Supplement form, with attachments and (3) a Water Conservation Permitting Form, and (4) a letter from Helix Generation which confirms that there are no changes to the facility or operations proposed.

Additionally, included for the Department's reference is the Short Environmental Assessment Form previously prepared for an application by TC Ravenswood LLC and Helix Generation pursuant to Sections 70 and 83 of the New York Public Service Law in relation to the above-referenced transfer. I also note that, pursuant to my conversation with the Department, given that there are no changes to the facility or operations proposed, that this submittal may rely upon the figures, Engineer's report, and other attachments required for the WWI Supplement form from the initial permit application in 2013. Because TC Ravenswood has submitted further Water Withdrawal Reporting Forms, including for 2016, this submittal includes the 2016 report in lieu of the 2012 report originally provided. We have also updated the contact information to reflect contacts representing Helix Generation. Otherwise this information is identical to that submitted for the current permit.

{C0019436.1}

As specified by the Department, we are including two sets of the application forms and attachments. Please feel free to contact me with any questions or concerns, or should you require anything further.

Very truly yours,,

COUCH WHITE, LLP

Alita J. Giuda

AJG/elb
Enclosures

cc: Kathy French (via e-mail)
Erin Shirkey (via e-mail)

A-244

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

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N.Y.S.D.E.C. - REGION 2
APR 12 2017
DIVISION OF ENVIRONMENTAL PERMITS

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME TC Ravenswood LLC

2. FACILITY NAME Ravenswood Generating Station

3. PROJECT TYPE
☑ Water Withdrawal ☐ New Public Water Supply Service Area or Extension
☐ Land Acquisition for Public Water Supply ☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE
☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☐ Cooling ☐ Industrial
☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☑ Power Production ☐ Recreational
☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New
If this is an existing public water supply, provide the most recent WSA or WWA Number:
If other than public water supply, list other existing or pending related DEC permits (e.g., SPDES, Mining, Dam):
Water Withdrawal Permit ID. 2-6304-00024/00054; SPDES NY 0005193

6. WATER WITHDRAWAL SOURCE ☑ Surface Water Water Body Name(s): East River
☐ Groundwater Nearest Surface Water Body: Distance From Well (in feet):

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 1,527,840,000 gallons per day Source Name: East River
Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes
If yes, ☐ Existing ☐ New From Basin: To Basin:

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)	Not Applicable	*601.10(h) ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	Not Applicable
601.10(b) GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)	See Figure #1	*601.10(i) WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	Not Applicable
601.10(c) WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).	See Figures #'s 1 & 2	*601.10(j) TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	Not Applicable
601.10(d) CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)	Not Applicable	*601.10(k) PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	See Section (K)
601.10(e) ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)	See Appendix A	*601.10(l) CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	Not Applicable
601.10(f) WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)	See Appendix B	*601.10(m) TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	See Section M
601.10(g) ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)	See Appendix C	*601.10(n) GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	Not Applicable

Clear Form

Applicant Signature: Kathy French

Name: KATHY FRENCH Date: 4/12/2017

Title: VP ENVIRONMENTAL

May 2013

INSTRUCTIONS

Water Withdrawal Application Supplement Form (WW-1)

1. Before completing this form, please carefully review the Water Withdrawal Permit Program page located on the Department's website at http://www.dec.ny.gov/lands/55509.html (non-agricultural facilities) and http://www.dec.ny.gov/lands/86747.html (agricultural facilities). Note that applications by existing systems for an initial Permit shall be submitted in accordance with the schedule established in NYCRR Part 601.7(b)2 as shown in Table 1 at http://www.dec.ny.gov/lands/86935.html.

2. This form is to accompany the Joint Application Form. The Joint Application Form, Supplement WW-1 and their instructions are available on the Department's website at http://www.dec.ny.gov/permits/6222.html.

3. NYSDEC strongly encourages electronic submission of supporting documents. Submit 3 completed copies of the Joint Application Form, Supplement WW-1 and all attachments to the NYSDEC Regional Permit Administrator (refer to the Joint Application Instructions).

4. Applicant Name - Applications must be in the name of the owner of the water withdrawal system involved. For acquisitions of existing systems, the applicant should be the prospective owner.

5. All Water Withdrawal Applications must include a completed Water Conservation Program Form demonstrating that the applicant has developed and implemented a Water Conservation Program that incorporates environmentally sound and economically feasible water conservation measures. Information is available on the Department's website at http://www.dec.ny.gov/lands/86945.html.

6. Locate and describe all facilities and service areas on appropriate maps and plans to be submitted with this form. Choose a scale for this location map that allows you to accurately define all groundwater wellhead and surface water intake positions, and the overall project area within the county or town. Include coordinates for all wellheads and intakes on the Joint Application Form, Item 8, and on additional sheets if needed.

7. Water Withdrawal Amounts (Item 9) - Convert to gallons per day (GPD). In order to convert from gallons per minute (GPM) to GPD, multiply GPM x 1440.

8. All facts and opinions expressed in the application must be documented in appropriate legal, engineering, or other papers attached as exhibits and noted in Item 10 of this form.

9. If more room is needed to complete any item, provide the information as attachments.

10. All Water Withdrawal Applications must include the following items in a separate exhibit:
    a) Names, titles, mailing addresses, and phone numbers of the Applicant's Attorney; Engineer; and other consultants (planners, geologists, etc.) serving the applicant.
    b) A list of all maps and exhibits accompanying the application.

NYCRR Part 601
Water Withdrawal Permit Application
601.10 Requirements

(a) Project Authorization
The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. The current facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. The water withdrawal system is not a public supply system and is not applicable to the requirements set forth in subpart (a).

(b) General Map
See Drawing # 1-Ravenswood Generating Station General Map.

(c) Watershed Maps
See Drawing # 2- Watershed maps

(d) Contract Plans
No contract plans exist for the water withdrawal system. The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility.

(e) Engineer's Report
See Appendix A- Engineer's Report

(0 Water Conservation Program
See Appendix B-Water Conservation Form

(g) Annual Water Withdrawal Report
See Appendix C- 2016 Water Withdrawal Report

(f) Acquisition Maps
The water withdrawal system is an existing system that was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. Land acquisition maps are not required for the existing water withdrawal system.

(g) Water Analyses
The water withdrawal system is not a public supply system and chemical and bacteriological analyses are not performed. Therefore, Ravenswood is not applicable to the requirements set forth in subpart (i).

(h) Treatment Methods

The water withdrawal system is not a public supply system required to meet Department of Health standards and is therefore not applicable to the requirements set forth in subpart (j).

(k) Project Justification

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for Units 10, 20 & 30 is currently withdrawn from the East River through intake structures and is routed through steam surface condensers.. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed to back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River The siting of the electric generating facility along the East River is ideal due to the plentiful surface water supply for once through cooling. The East River's mean tidal flow is about 240,000 cubic feet per second (1.79 million gallons per second) allowing for Ravenswood to adequately and reasonably withdraw and return the necessary water for cooling.

The installation of variable frequency drives (VFD) on the circulating water pumps (CWP) has allowed for vast conservation improvements and an overall reduction in water withdrawn from the East River. The installation of VFDs has reduced electricity consumed by the CWP while in VFD operation due to the slower motor speeds. More importantly, the installation of VFDs has led to a considerable overall reduction in the volume of surface water withdrawn from the East River. The upgrades performed on the CWPS have directly made the water withdrawal system an environmentally sound and economically feasible project. In addition to the conservation of water withdrawn from the East River, the VFDs installed on the CWPs have also helped reduce the overall adverse environmentally impact associated with the impingement and entrainment of marine organisms. The volume of water withdrawn is directly proportional to the number of organisms impinged and entrained. A flow reduction achieved by the use of variable speed pumps has a proportional reduction to impinged and entrained organisms. The installation and implementation of VFDs is projected to reduce impingement mortality and entrainment of organisms by 90% and 65% from baseline, respectively. The current water withdrawal system utilized at Ravenswood complies with the various federal, state, and local laws.

(l) Canal Withdrawal Approval

The water withdrawal system is not located on a canal and is therefore not applicable to the requirements set forth in subpart (l).

(m)Transmittal Letter

(1)
Applicant:
TC Ravenswood LLC
Daniel O'Donnell
38-54 Vernon Blvd.
Long Island City, NY 11101

Kathy French
1700 Broadway, 35th Floor
New York, NY 10019

Alita Giuda
Couch White LLP
P.O. Box 22222
540 Broadway
Albany, NY 12201-2222

(2) If required, a public venue will be determined at the appropriate time.

(3) Publications in local newspapers for facility permits are published in the 'Daily News'.

(n) Great Lakes-St. Lawrence River BasinThe water withdrawal system is not located within the Great Lakes or St. Lawrence River basin and is therefore not applicable to the requirements set forth in subpart (n).

Appendix A

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NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

Professional Engineer's Certification

Name: Erwin Schaub
Firm: TC Ravenswood LLC
Address: 38-54 Vernon Blvd
Long Island City, New York 11101

Signature: _____

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NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

1. **General description of the project and the engineering features of the existing water withdrawal system.**

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for units 10, 20, and 30 is withdrawn from the East River through intake structures and is routed through steam surface condensers. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River. Unit 40 and the simple cycle gas turbines do not utilize a once through cooling water system.

Condenser cooling water and service water for units 10, 20 and 30 is drawn into a protected embayment and intake structure. Units 10 and 20 each have four water intakes bays; two bays provide water to each circulator. Unit 30 has six intake bays; three bays provide water to each circulator. Wooden debris skimmers (ice breakers) are located at the entrance to each intake bay to prevent floating material from entering the bays. The continuous traveling water screens (3/8 inch square mesh) are equipped with high pressure (screen wash) spray systems to wash off impinged fish, crabs, and debris from the riverside of the screen. The wash water and impinged material is then diverted back to the East River though low stress fish return piping.

Each of the three units is equipped with two motor driven circulating water pumps. At Units 10 and 20; each pump has a rated capacity of 107,000 gallons per minute (GPM). Unit 30 pumps are rated at 268,500 GPM. Each motor has been retrofitted with variable frequency drives (VFD). A VFD is a device that rectifies 60 cycle AC current to direct current. Then using insulated gate bipolar transistors (IGBT's), converts the DC supply to a square wave alternating supply at adjustable frequency. This causes the motor to operate at variable speeds. The VFD allows the facility to decrease the circulating water pump motor speed and consequently proportionately decrease the circulating water flow. Operation at less than full flow capacity directly relates to conservation.

A service water system (Low Pressure Salt Water Pumps) also provides water from the East River for cooling small equipment throughout the facility and

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turbine-generator cooling. Units 10 and 20 each have a Low Pressure Salt Water Pump with a shared spare and unit 30 has three Low Pressure Salt Water Pumps.

2. **A listing of all existing sources of water supply, including wells, surface withdrawals, and any purchases sales or transfer of water.**

Existing Source	Water Supply
11 Circulating Water Pump	Surface-East River
12 Circulating Water Pump	Surface-East River
21 Circulating Water Pump	Surface-East River
22 Circulating Water Pump	Surface-East River
31 Circulating Water Pump	Surface-East River
32 Circulating Water Pump	Surface-East River
11 Low Pressure Salt Water Pump	Surface-East River
21 Low Pressure Salt Water Pump	Surface-East River
1-2 Low Pressure Salt Water Pump	Surface-East River
31 Low Pressure Salt Water Pump	Surface-East River
32 Low Pressure Salt Water Pump	Surface-East River
33 Low Pressure Salt Water Pump	Surface-East River
Unit 10, 20, & 30 Screen Wash Pumps (5)	Surface-East River
Water Meter House 1, 2, 3 & 4	Purchase - NYCDEP

3. **Evaluation of a practicable alternative to the proposed source shall include an analysis of increased water conservation measures as a means to reduce or eliminate the need for the proposed source.**

Cooling water is a critical component to the production of electricity at the station. Total elimination of cooling water is not a practical alternative. However, conservation methods are a viable option that has been implemented at the facility in order to reduce cooling water withdrawn from the East River. Circulating Water Pumps (CWP) have been retrofitted with VFDs to allow for reduced surface water withdrawal at reduced generation loading and reduced cooling water temperatures. An analysis of the first ten months of cooling water withdrawal from the East River was performed on the CWPs with VFD operation. The average hourly CWP GPM was calculated by utilizing continuously recorded motor speeds. The hourly CWP GPM was then compared to average CWP GPM if VFDs had not been installed (full flow operation). The difference between the two averages was then used to determine the water conservation directly related to the retrofit of the CWP on a daily basis for all units. Monthly averages are shown below. The overall reduction in surface water withdrawn from the East River is significantly reduced with the use of VFD operation of the CWPs. The conservation methods utilized at Ravenswood have directly led to substantial conservation of surface water and have been adequately implemented.

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	Unit 10			Unit 20			Unit 30			
	Unit 10 CWP AVG. GPM with VFD Operation	Unit 10 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 20 CWP AVG. GPM with VFD Operation	Unit 20 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 30 CWP AVG. GPM with VFD Operation	Unit 30 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	AVG. Water Withdrawal Conservation All Units (GPD)
July 2012	151,030	179,484	40,973,475	157,429	189,839	46,670,534	338,158	450,387	161,609,894	249,253,904
August 2012	155,883	202,536	38,956,157	167,411	189,839	32,295,838	165,404	225,194	86,096,285	157,348,281
Sept 2012	121,097	168,290	27,961,262	158,758	175,253	23,753,039	22,658	24,587	2,777,300	54,491,601
October 2012	168,933	193,290	35,074,172	52,196	65,581	19,274,255	364,899	537,000	247,826,058	302,174,485
November 2012	103,902	189,072	8,469,802	131,006	160,890	43,032,785	325,356	389,758	92,738,741	144,241,328
December 2012	214,000	214,000	0	43,808	55,226	16,441,232	0	0	0	16,441,232
January 2013	107,490	214,000	34,087,195	86,162	177,103	114,502,914	0	0	0	148,590,109
February 2013	24,563	34,516	10,485,108	2,779	5,713	3,693,642	77,542	138,581	87,895,382	102,074,132
March 2013	0	0	0	123,081	186,387	91,160,256	0	0	0	91,160,256
April 2013	9,107	20,710	17,264,262	95,504	192,400	139,530,196	0	0	0	156,237,546

4. **For public water supply systems, the present and projected population of the water service area and the present and projected consumption rate.**

   Not applicable to Ravenswood Generating Station.

5. **For public water supply systems, the radius of land owned or controlled for wellhead protection surrounding any proposed groundwater withdrawal, or the water quality classification and a copy of any Department of Health Watershed Rules and Regulations for any proposed surface withdrawal.**

   Not applicable to Ravenswood Generating Station.

6. **The general character and extent and essential design features of proposed controlling, diverting or regulatory works.**

   Implementation of site specific procedures on the operation of the CWPs has been employed at the site. Personnel are trained in the operation of the equipment and are instructed on CWP speeds for maximum conservation of water withdrawal.

7. **The proposed instantaneous and maximum daily rates of withdrawal; the existing and projected daily average, daily maximum, and 30 day maximum water demands of the withdrawal system;**

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2012 Maximum daily withdrawal rate	1,534.75 MGD
2012 Existing Daily Average	486.49 MGD
Projected Daily Average	486.49 MGD
Daily Maximum	1,489.70 MGD
2012 30 Day Maximum Demand	27,933.85 MG30DAY

8. **When applicable, any fire suppression flows which can be supplied, including the duration for which such flows can be maintained.**

   Water for fire suppression is fed from the city water supply (NYC DEP). The city water system supplies the suction to fire pumps which discharge to various fire protection systems located at the facility.

Fire Protection System	Flow
Dock Foam Fire Suppression System	3,000 GPM
GT Foam Fire Suppression System	1,000 GPM
Unit 40 Fire Suppression system	3,000 GPM
10, 20 & 30 Standpipe Booster Pump	750 GPM
06 Tank Foam Fire Suppression System	500 GPM
Rainey Foam Fire Suppression System	1,000 GPM
10/20 Transformer Fire Suppression System	750 GPM

9. **For public water supply systems, the location, extent and character of proposed treatment.**

   Not applicable to Ravenswood Generating Station.

10. **For groundwater sources, well drinking logs, monitoring well locations and pump test data and analyses of results.**

    Not applicable to Ravenswood Generating Station.

11. **For surface water sources, information on rainfall, stream flows and classifications, contributing watershed size, location of nearby USGS stream gauges, other upstream water withdrawals, safe yield analysis or passby flow calculations and proposed withdrawal methods including intake structure design and screening.**

    The Hudson-Raritan Estuary System is a coastal plain estuary dominated by the drowned river valley of the Hudson River estuary. The estuary system extends 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The freshwater tributary to the estuary system drains a total of about 16,300 square miles. Seasonal and inter-annual variation of stream flow of the Hudson River recorded at Green Island, New York, near Troy (USGS gage 0 1358000) is characterized by high flow during March through May, with monthly mean peak flow of 32,719 cubic

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feet per second (CFS). The mean oscillating tidal flow in the East River reaches about 240,000 CFS. The estuary system is comprised of all tidally inundated areas within these drainage basins including tidal straights; Harlem and East Rivers. The East River extends 16 miles from the battery to Throgs Neck and Willets Point at the Long Island Sound. The tidal straight is divided into distinct hydrological sections. The East River is narrow and bulk-headed along most of the length, and is divided into east and west channels where it passes Roosevelt Island. The station is located on the east channel from which the station withdraws its cooling water. Maximum river velocities are high, reaching 5.0 ft/sec. The station utilizes a once through cooling water system. The intake structures are recessed 60 feet inside the bulkhead line. Units 10 and 20 each have four water intake bays that measure 11.2 feet wide and by 17 feet deep at mean low water (MLW). Unit 30 has six intake bays that each measure 11.2 feet wide by 24 feet deep (MLW). The existing technology includes 14 vertical continuous traveling screens outfitted with 3/8 inch square mesh and high pressure wash to remove impinged material.

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Appendix B

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER WITHDRAWALS

TO BE COMPLETED AND SUBMITTED AS PART OF A
NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
*SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of withdrawal will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Ravenswood Generating Station		DEC No. For Dept Use	
Street Address: 38-54 Vernon Blvd		WWA No. For Dept Use	
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Contact Name: Daniel O'Donnell			
Street Address: 38-54 Vernon Blvd			
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Applicant's Telephone: 718 706-2818		**Contact's Telephone:** 718 706-2818	

II. SOURCES OF WATER WITHDRAWAL

[State capacity and withdrawal in gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd).]

Source Type: S = Surface supply, G = Groundwater supply, P = Purchased supply
Source Status: R = Regular use, S = Standby use, E = Emergency use, I = Inactive, D = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
East River	S	R	1,527.84 mgd	668 mgd	1963
NYCDEP	P	R		1 mgd	

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters?	No
How often are they read? Service water meters are read monthly.	
How often are they calibrated? Meters are not calibrated at this time.	
Are there secondary meters located within the facility or system? Yes	If yes, how many? 15
Describe secondary metering system if applicable: All incoming city water is metered by a NYC DEP service water meter. Inside the plant various secondary water meters are installed to determine water usage throughout the site. Surface water is withdrawn from the East River and flow rate is determined by pump speed.	

Water Production for Calendar Year		
Total metered water production:	243,886,199,271	gallons per year
Average day production (total/days of use):	668,000,000	gallons per day
Maximum day production (largest single day):	1,452,000,000	gallons per day

What are your future goals and schedule for water metering?
City water connections from the NYC DEP water system are currently metered to determine the total water purchased. Multiple water meters are installed throughout the facility and are read monthly to determine water usage at different parts of the steam-electric generation process. Currently, primary and secondary water meters are being reviewed to determine the best practice for calibration.

Best Management Practices:

** 100% metering of all sources of water withdrawal.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

**** Water Audit for Calendar Year**

Total metered water production (from previous section)		Total	243,886,199,271	
Sources of Water Use	**Metered or Estimated?**			**% of Total**
Process Water	Metered	subtract	169,937,382	0.07
Cooling Water	Estimated	subtract	243,621,177,061	99.52
Wash Water		subtract		
Sanitary		subtract		
Incorporation into Product		subtract		
Irrigation		subtract		
Other HP wash water for screens	Estimated	subtract	950,848,283	0.39
Other		subtract		
TOTAL UNACCOUNTED-FOR WATER		Sub-total		
Unaccounted-for water breakdown	Meter under-registration	subtract		
	Unrepaired leakage	subtract		
	Other:	subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html			0	

What are your future goals for water system auditing?
Continuation of monthly water meter readings by Performance Engineering Group. Water meter readings and site water usage is analyzed and compared to historical data.

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? No
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? No

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired

What are your future goals for water system leak detection and repair?
The site is continuously manned with personnel and water usage data is analyzed monthly. If a leak is detected in underground piping the leak is addressed as soon as possible.

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:
Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:
Describe any equipment or processes that promote the efficient use of water by your facility: Variable Frequency Drives (VFD) are installed on the Circulating Water Pumps (CWP). The CWPs withdraw surface water from the East River for cooling. VFDs allow for the pumps to operate at less than full speed operation at reduced loads and cooler water temperatures. The reduced speed directly correlates to reduced water withdrawal.
Does your system include storage tanks or ponds to meet short term water demands? Yes, demineralized water storage tanks are used.
Describe any actions that can be taken to reduce water use during times of drought: VFD operation of the CWP in order to reduce surface water withdrawal.

What are your future goals for recycling or reducing water usage? Continuing use of CWPs in VFD to reduce surface water withdrawal at reduced loads.

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

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VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Ravenswood Generating Station	WWA No. For Dept Use

Signature: Kathy French	Signatory: KATHY FRENCH
Title: VP ENVIRONMENTAL	Date: April 12, 2017

DISCUSSION:

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

Appendix C

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management
625 Broadway, Albany, NY 12233-3508

Dec. '15

Water Withdrawal Reporting Form

Due by March 31st each year

Prior to filling out this form, please read the instructions on the last page

This form not for Agricultural Facilities

Section 1 of 6 - Basic Information

Facility Name: Ravenswood Generating Station | Facility Street Address: 38-54 Vernon Blvd | Reporting Year: 2016

City: Long Island City | Zip: 11101 | Town: New York | County: Queens

Contact Name: Tanja Grzeskowitz | Email: tanja_grzeskowitz@transcanada.com | Telephone: (718)706-2705

Source Name	Source Type	Well Depth	Max Rate	Units
East River	S		1,527.84	MGD
NYC DEP	P			MGD

668	MGD	1,452	MGD	1,527.84	MGD
Average Day Withdrawal	Units	Maximum Day Withdrawal	Units	Maximum System Capacity or NYSDEC Permitted Withdrawal	Units

Submitted by: Tanja Grzeskowitz | Title: Environmental Specialist | Date: 3/24/2017

Water Withdrawal Category
(Check One)

- (●) Agricultural - Must use form at http://www.dec.ny.gov/lands/86904.html
- ( ) Bottled / Bulk Water
- ( ) Commercial
- ( ) Environmental
- ( ) Industrial
- ( ) Institutional
- ( ) Mine Dewatering
- ( ) Oil / Gas Production
- Power Production:
  - (●) Fossil Fuel
  - ( ) Nuclear
  - ( ) Other Pwr
- ( ) Public Water Supply
- Recreational:
  - ( ) Golf Course
  - ( ) Snow Making
  - ( ) Other Rec
- ( ) Other Category

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AR-0000225

Water Withdrawal Reporting Form

Section 2 of 6 - Water Use

Calculation Method: P

If multiple methods are used, choose the one that measures the greatest percentage of water in your system. E = Estimated M = Metered readings W = Flow through a weir P = Flow through a pipe or pump run times C = Pump curve calculation

Units: Must be in gallons per month	January	February	March	April	May	June
Withdrawn	5,990,898,314	6,471,911,282	11,623,733,453	13,106,449,212	28,927,208,695	28,736,859,324
Transferred / Imported / Purchased	11,014,952	11,918,643	17,194,792	17,879,532	18,095,172	23,478,681
Consumed	8,564,309	9,892,065	14,479,564	15,948,372	15,297,236	20,836,941
Returned	5,993,348,957	6,473,937,860	11,626,448,681	13,108,380,372	28,930,006,631	28,739,501,514
Diversions In / Out, if any						

For Transferred water or Diversions Out, use a negative (-) sign

Units: Must be in gallons per month	July	August	September	October	November	December
Withdrawn	33,811,412,270	37,910,845,839	31,127,152,079	27,395,382,010	8,477,890,309	10,085,642,964
Transferred / Imported / Purchased	31,037,059	27,017,878	22,488,715	17,895,327	9,214,502	13,578,267
Consumed	8,696,041	22,190,496	19,992,175	15,134,033	8,058,332	10,847,818
Returned	33,833,753,288	37,915,673,221	31,129,648,619	27,389,143,304	8,479,046,479	10,088,373,413
Diversions In / Out, if any						

Describe location of returned water: Water is returned to the East River via SPDES outfalls 001, 008, 009, 010. These points are annotated as discharges 1 through 4 respectively on the attached map.

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AR-0000226

Water Withdrawal Reporting Form

Section 3 of 6 - General Map and Interbasin Diversions

General Map Required

Please submit a map showing the location of all withdrawals and any points of return flow. Precise locations will remain confidential.

A map is not necessary if one was submitted in a previous year and no changes have occurred.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. Please ensure that the map scale is sufficient to be able to see specific locations. Designate all water withdrawal locations on the map. Add markers to locate any related dams, weirs, or diversion structures. Label the name of each point.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290. Include cover letter identifying facility owner.
- Print, scan and email to awqrsdec@dec.ny.gov
- Copy electronically and email to awqrsdec@dec.ny.gov

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, go to the DEC Major Drainage Basins map (http://www.dec.ny.gov/lands/56800.html). Then enter the basin ID by using the drop down menus under Originating and Receiving Major Drainage Basin headings below. Describe the locations of originating and receiving sites in the site description boxes (e.g. Town water intake on Route 12 at northern end of Pleasant Lake to Stony Reservoir near Bear Road).

Originating Major Drainage Basin	Receiving Major Drainage Basin
Basin Name	Basin Name
Originating Site Description	Receiving Site Description

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AR-0000227

Water Withdrawal Reporting Form

Section 4 of 6 - Water Conservation and Efficiencies

Instructions: Check one of the boxes below for EITHER Section A or Section B, as appropriate for your facility type. A list of questions pertinent to that facility type will appear. Please answer all questions.

☐ Section 4A: Public Water Supply Facilities

☒ Section 4B: Non-Public Water Supply Facilities

If the incorrect box is selected, just scroll back up a page and change selection

NOTE: All permitted water withdrawal systems must have a Water Conservation Program.

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Water Withdrawal Reporting Form

Section 4B: Non-Public Water Supply Facilities

(see permitting schedule based on NYCRR Part 601.7)

Please answer all the questions in this section

1. Are all sources of supply including major interconnections equipped with master meters? ○ Yes ◉ No

2. How many times were master meters read in the past year? 12

3. How many times were master meters calibrated in the past year? 0

4. Are there secondary meters located within the facility or system? ◉ Yes ○ No

5. Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station circulating water pumps have variable speed drives and vacuum priming systems to allow for variable speed operation. The circulating water pumps are operated at reduced speeds during periods of reduced load, cool weather conditions, or when full flow operation is not required. The reduced operation of the pumps saves millions of gallons from being withdrawn from the East River daily.

Water Withdrawal Reporting Form

Section 5 of 6 - Outside Sales to Other Water Systems or Facilities

Instructions:

Permittees must record any sales to outside water systems or facilities. If this applies to your facility, please check the box titled, "Section 5 - Outside Sales" and fill in the information requested.

If your facility does not sell water to systems or facilities other than your own, skip the section by clicking the box for "No Outside Sales".

☐ Section 5 - Outside Sales

☒ No Outside Sales

If the incorrect box is selected, just scroll back up a page and change selection

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Water Withdrawal Reporting Form

Section 6 of 6 - Forward Form To NYSDEC

Unless required fields have not been filled in, the form can now be sent to NYSDEC. To send the form electronically, simply click the green box titled, "Click here to submit by email after filling out all sections of this form". Alternatively, the form can be printed and then mailed or faxed to NYSDEC at the address found on the first page.

When the form is sent by clicking the "submit by email" button, an automatic confirmation is returned. If this does not arrive within 10 minutes, please contact awqrsdec@dec.ny.gov

Click here to submit by email after filling out all sections of this form

Print Form

Print Blank Form For Handwritten Submission

Clear Entire Form

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Water Withdrawal Reporting Form
Instructions & Definitions

Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal to or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn.
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Maximum Sys Capacity or Permitted Withdrawal	If permit information is unknown, contact NYSDEC at awqrsdec@dec.ny.gov or 518-402-8182. Maximum system capacity is the sum of all sources simultaneously pumping at full rate.
Calculation Method	If multiple methods are used, choose the one that measures the greatest percentage of water in your system E = estimated. M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. C = Pump curve calculation.
Withdrawn	Amount of water removed from all sources. This includes groundwater and/or surface water.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers. Irrigation is considered "consumed water".
Returned	Amount of water discharged to a water treatment system or discharged back to the environment. Irrigation is not returned water.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

Appendix D

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State | US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. Applications To:

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:
- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☐ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☐ No

If yes, name of Federal Agency:

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:
- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. Name of Applicant

TC Ravenswood LLC

Taxpayer ID (if applicant is NOT an individual)

11-3484082

Mailing Address

38-54 Vernon Blvd.

Post Office / City

Long Island City

State: NY

Zip: 11101

Telephone: 718.706.2818

Email:

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. Name of Property Owner (if different than Applicant)

Mailing Address

Post Office / City

State

Zip

Telephone

Email

For Agency Use Only | Agency Application Number:

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

4. Name of Contact / Agent

Kathy French

Mailing Address	Post Office / City	State	Zip
1700 Broadway, 35th floor	New York	NY	10019

Telephone 212-547-4381 Email kfrench@LSPower.com

5. Project / Facility Name

Ravenswood Generating Station

Property Tax Map Section / Block / Lot Number: Block 357 Lot 1

Project Street Address, if applicable	Post Office / City	State	Zip
38-54 Vernon Blvd.	Long Island City	NY	11101

Provide directions and distances to roads, intersections, bridges and bodies of water

☐ Town ☐ Village ☑ City

County	Stream/Waterbody Name
Queens	East River

Long Island City

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 40 ° 45 ' 41 " Longitude: 73 ° 56 ' 39 "

6. Project Description: Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

This project seeks necessary updates to the water withdrawal permit due to the upcoming anticipated transfer of all of the membership interests in TC Ravenswood LLC from TransCanada Facility USA, Inc. to Helix Generation. There will be no change to TC Ravenswood LLC's status as owner and responsible party pursuant to the permit. Further, no physical or operational changes are proposed for the site.

b. Description of current site conditions:

The site is operating under the conditions set forth in its current permit.

c. Proposed site changes:

No changes to the site are proposed. As no changes are proposed, the figures and other information included with the original permit application are being submitted for the Department's use.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

No installation of any structures, fill materials or other objects or materials is proposed.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

No excavation or dredging is proposed.

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut: Acreage of trees to be cleared:

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

g. Work methods and type of equipment to be used:
No work is proposed.

h. Describe the planned sequence of activities:
N/A

i. Pollution control methods and other actions proposed to mitigate environmental impacts:
N/A. The requirements of the existing permit will continue to be followed.

j. Erosion and silt control methods that will be used to prevent water quality impacts:
N/A. The requirements of the existing permit will continue to be followed.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:
No alternatives have been considered because no changes to the operations or site are proposed.

l. Proposed use: ☐ Private ☐ Public ☑ Commercial

m. Proposed Start Date: n/a Estimated Completion Date: n/a

n. Has work begun on project? ☑ Yes If Yes, explain below. ☐ No
Ravenswood Generating Station has been in operation since 1963. The site has been operating pursuant to its Water Withdrawal permit since November 15, 2013, with Notice of Intent to Modify Letter dated February 19, 2014.

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:
The current Water Withdrawal Permit is Permit ID 2-6304-00024/00054.

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?
☐ Yes If Yes, list below. ☑ No

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant Kathy French — Date: April 12, 2017

Applicant Must be (check all that apply): ☐ Owner ☐ Operator ☐ Lessee

Printed Name: KATHY FRENCH — Title: VP ENVIRONMENTAL

Signature of Owner (if different than Applicant) — Date:

Printed Name: — Title:

Signature of Contact / Agent Kathy French — Date: April 12, 2017

Printed Name: KATHY FRENCH — Title: VP ENVIRONMENTAL

For Agency Use Only — **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number:

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

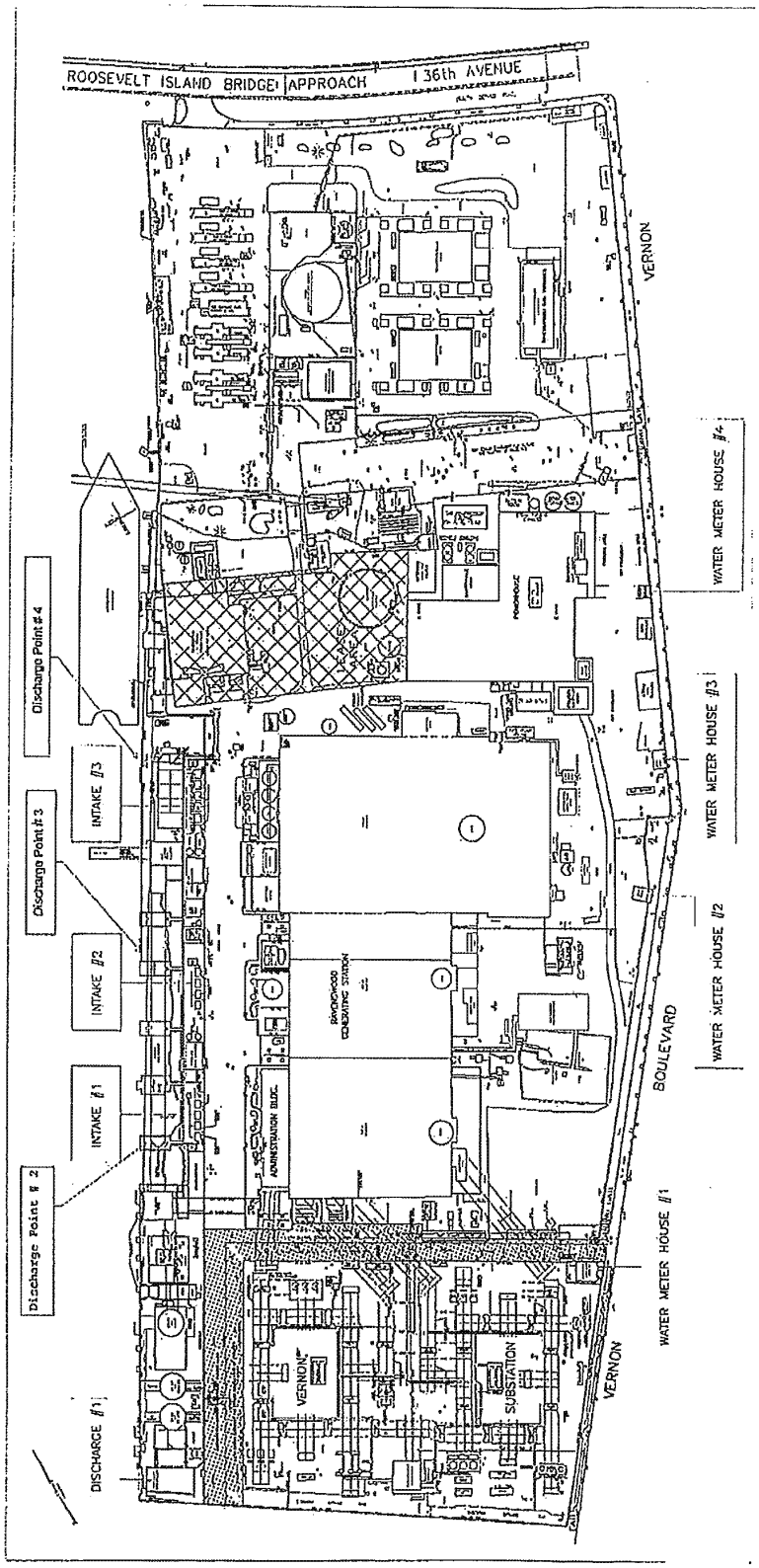
Agency Representative:

Printed Name: — Title:

Signature: — Date:

Figure 1

Ravenswood Generating Station
General Map 601.10(b)



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

Figure 2

Source: USGS Central Park, NY-NJ 2013

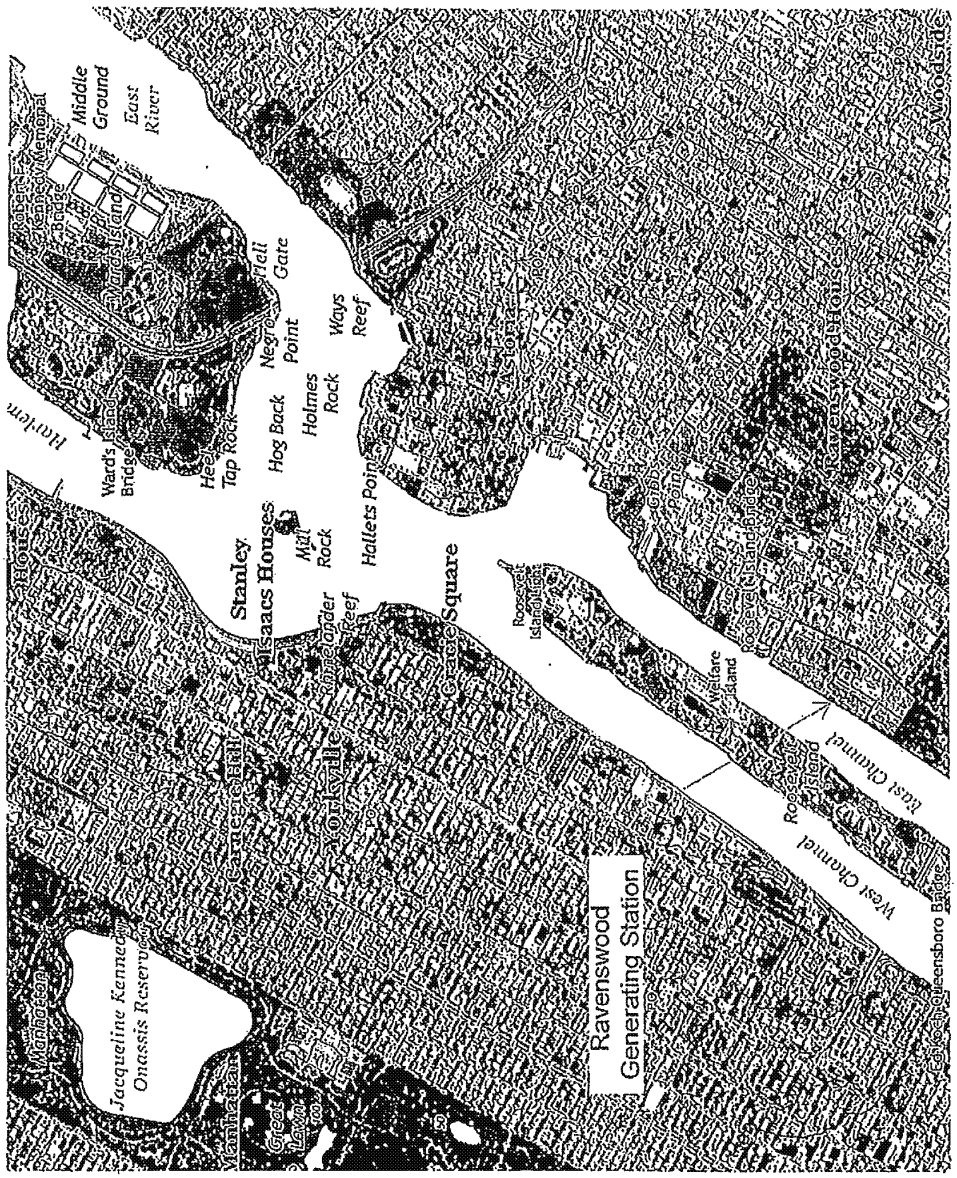

Middle Ground
East River
Hallets Point
Stanley Isaacs Houses
Astoria
Queensboro Bridge
Ravenswood Generating Station
Roosevelt Island
Blackwell Island
Manhattan
Woodside

Figure 3

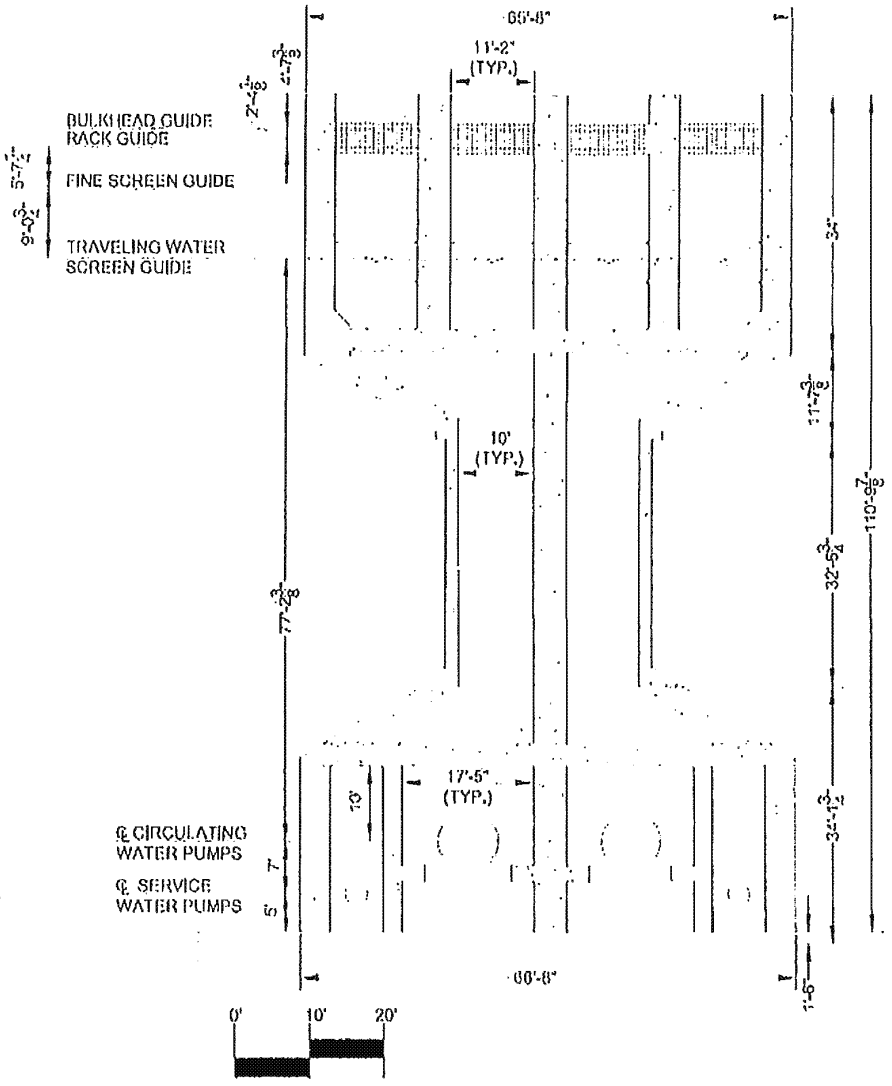


Figure 3 – Ravenswood Generating Station Unit 10 CWIS – Plan
(Unit 20 is Identical)

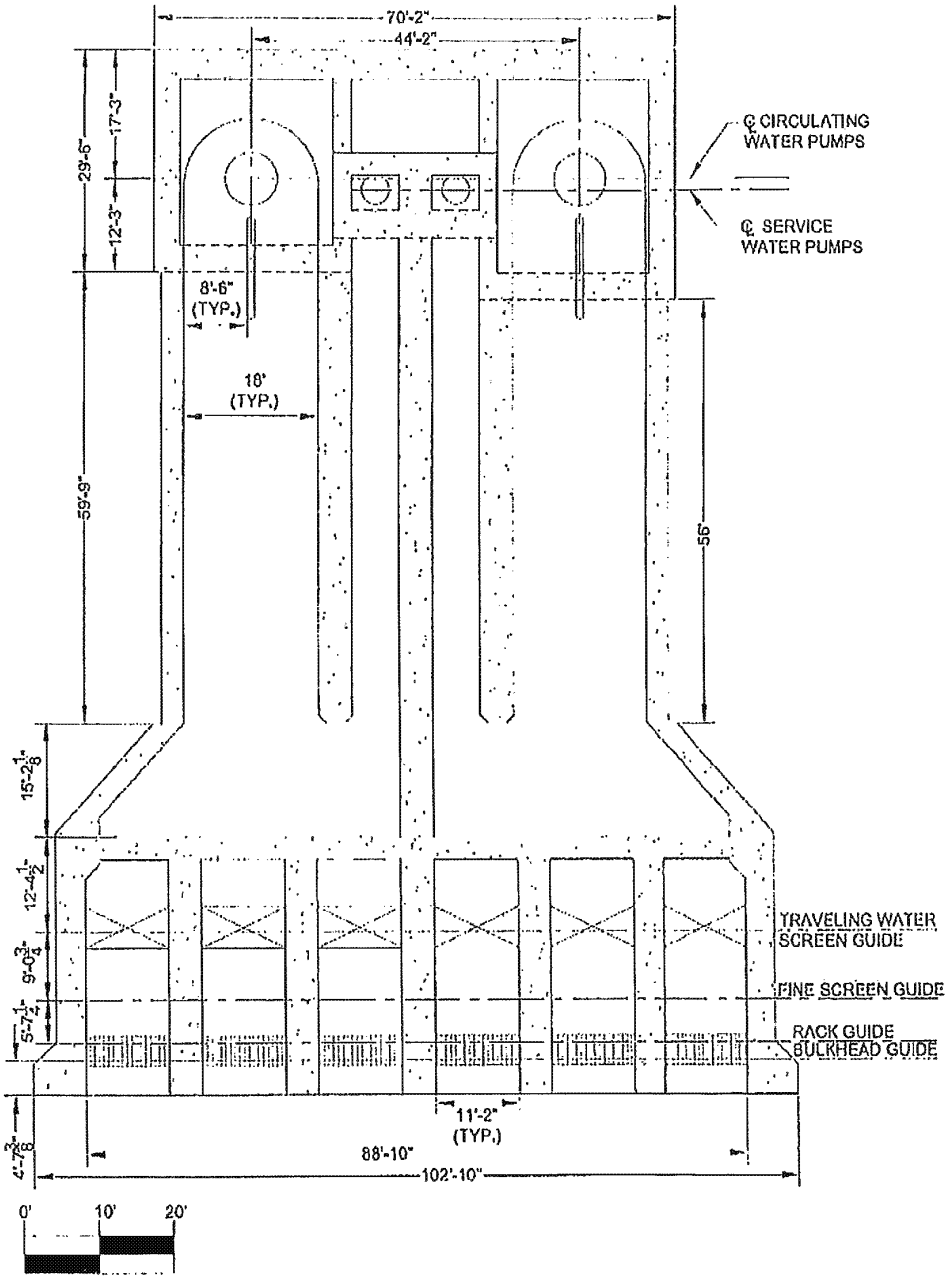


Figure 4 – Ravenswood Generating Station Unit 30 CWIS – Plan

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Helix Generation, LLC

1700 Broadway, 35th Floor
New York, NY 10019

Via Overnight Mail

April 12, 2017

Stephen Watts
NYSDEC
One Hunters Point Plaza
47-40 21st Street
Long Island City, New York 11101-5407

RE: *Water Withdrawal Permit 2-6304-00024/00054*

Dear Mr. Watts:

This letter is being submitted on behalf of the permittee, TC Ravenswood LLC. On or about May 1, 2017, a transfer of all of the membership interests in TC Ravenswood LLC from TransCanada Facility USA, Inc. to Helix Generation will occur. To address any necessary amendments to the above-referenced Water Withdrawal Permit, it is our understanding that the following documents are required, and are being submitted with this letter: (1) a completed Joint Application Form, (2) a WWI Supplement form, with attachments and (3) a Water Conservation Permitting Form.

This letter will confirm that this transfer of membership interests will not result in a change to the water withdrawals and facility at the Ravenswood Generating Station as set forth in the current permit. No physical or operational changes will occur as a result of the change in corporate ownership.

Please feel free to contact me at 908-239-3974 or kfrench@lspower.com with any questions or concerns.

Sincerely,

Kathy French
VP, Environmental, Health and Safety

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
Transfer of certain membership interests from TransCanada Facility USA, Inc. to Helix Generation

Project Location (describe, and attach a location map):
38-54 Vernon Boulevard, Long Island City, NY 11101

Brief Description of Proposed Action:
Petitioners seek approval under Sections 70 and 83 of the New York Public Service Law for the transfer, as applicable, of all of the membership interests in select entities (a steam corporation and an electric corporation) held by TransCanada Facility USA, Inc. to Helix Generation. The Petition also seeks approvals pursuant to Sections 69 and 82 in connection with a proposed financing, and related relief from the Public Service Commission.

There will be no physical changes to the Ravenswood Generating Station as a result of the transfer. The facility will continue to be operated in accordance with all previously issued regulatory permits and approvals.

Name of Applicant or Sponsor:	Telephone: (508) 475-6088
TC Ravenswood, LLC, TC Ravenswood Services Corp., Helix Generation LLC	E-Mail: jim_dandrea@transcanada.com

Address:
110 Turnpike Road, Suite 300

City/PO:	State:	Zip Code:
Westborough	MA	01581

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: The parties are also seeking various other approvals related to the transfer, e.g. from FERC and NYSDEC which would update the permits in relation to the transfer of membership interests.	☐	☑

3.a. Total acreage of the site of the proposed action? N/A acres
b. Total acreage to be physically disturbed? N/A acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? Approx. 28 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☑ Urban ☐ Rural (non-agriculture) ☑ Industrial ☑ Commercial ☑ Residential (suburban)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____
☑ Parkland

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☐	☑
b. Consistent with the adopted comprehensive plan?	☐	☐	☑
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify:	☑	☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☐	☑	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☐	☑	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: N/A	☑	☐	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: No additional connection is required; the facility is already served by public water.	☑	☐	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: No additional connection is required; the facility is already served by public wastewater treatment services.	☑	☐	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	☑	☐	
b. Is the proposed action located in an archeological sensitive area? See Note 1 below.	☐	☑	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: The existing site abuts the East River. No changes to operations are proposed and therefore no impacts to wetlands or waterbodies that have not already been reviewed will occur.	☑	☐	
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☑ Urban ☐ Suburban			
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? See Note 2 below.	☐	☑	
16. Is the project site located in the 100 year flood plain? There are no operational changes proposed, therefore no impact to the flood plain will occur.	☐	☑	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☐ NO ☐ YES	☑	☐	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☐ YES No new stormwater systems are needed. Existing stormwater conveyance systems will continue to be used, and the existing SPDES permit will be followed.			

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: There have been several petroleum spills which were reported to NYSDEC and have been and are being remediated. The Site has also been subject of some Consent Orders, and a VCA for a 2 acre portion of the site which has been completed.	☐	☑

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Jasmin Bertovic Vice President Date: 01/13/17

Signature:

Note 1:

DEC's records indicate that there are archaeological areas at or near the site. However, the specific locations are generally confidential. The applicants are not aware of any archaeological areas on the site or in the vicinity of the facility. Nevertheless, the proposed project does not involve any physical changes, it involves the approval of the transfer of membership interests and associated financing. Therefore no impacts to archaeological areas will occur.

Note 2:

DEC's records indicate that there has been one or more sighting(s) of a threatened or endangered species, however, the records do not indicate which species or when. The applicants are not aware of any endangered species or habitat in the vicinity of the facility. Nevertheless, the proposed project does not involve any physical changes. The proposed project is the approval of the transfer of membership interests and associated financing, therefore no impacts to endangered/threatened species will occur.

PRINT FORM

A-288

EMAIL FROM COUCH WHITE TO DEC REGARDING CHANGE IN CONTROLLING INTEREST IN RAVENSWOOD, DATED AUGUST 2, 2017

Shirkey, Erin L (DEC)

From:	Madeline Goralski <mgoralski@couchwhite.com>
Sent:	Wednesday, August 02, 2017 4:26 PM
To:	Watts, Stephen (DEC)
Cc:	tanja_grzeskowitz@transcanada.com; KFrench@LSPower.com; Alita Giuda; Shirkey, Erin L (DEC)
Subject:	Notification of Change in Controlling Interest in Ravenswood Generating Facility
Attachments:	Ltr to Stephen Watts Re Notification of Permit Transfers (C0054158xE5E76).pdf

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Mr. Watts,

Please find attached certain forms and applications for the following permits reflecting the change in the controlling interest in Ravenswood Generating Facility:

(1) Water Withdrawal Permit 2-6304-00024/00054;
(2) SPDES Permit 2-6304-00024/00004;
(3) Title V Permit 2-6304-00024/00039; and
(4) Title V (Unit 40) Permit 2-6304-00024/00035.

A hard copy of this submission will follow via FedEx.

Best,
Madeline Goralski

Madeline W. Goralski, Esq.
Couch White, LLP
P.O. Box 22222
540 Broadway
Albany, New York 12201-2222
mgoralski@couchwhite.com
www.couchwhite.com
518-426-4600

COUCH WHITE, LLP
COUNSELORS AND ATTORNEYS AT LAW

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COUCH WHITE
COUNSELORS AND ATTORNEYS AT LAW

Couch White, LLP
540 Broadway
P.O. Box 22222
Albany, New York 12201-2222
(518) 426-4600

Alita J. Giuda
Partner

Direct Dial: (518) 320-3414
Telecopier: (518) 426-0533

Email: agiuda@couchwhite.com

August 2, 2017

VIA OVERNIGHT DELIVERY AND E-MAIL

Stephen Watts
NYSDEC
One Hunters Point Plaza
47-40 21st Street
Long Island City, New York 11101-5407
Dep.r2@dec.ny.gov
stephen.watts@dec.ny.gov

Re: Notification of Change in Controlling Interest in Ravenswood Generating Facility

Dear Mr. Watts:

This letter is being submitted in relation to the following permits held by TC Ravenswood LLC:

(1) Water Withdrawal Permit 2-6304-00024/00054;
(2) SPDES Permit 2-6304-00024/00004;
(3) Title V Permit 2-6304-00024/00039; and
(4) Title V (Unit 40) Permit 2-6304-00024/00035.

Please be advised that the transfer of membership interests in TC Ravenswood LLC from TransCanada Facility USA, Inc. to my client, Helix Generation occurred on June 2, 2017. We first brought this transfer of membership interest to your attention in a submission dated April 12, 2017.

In connection with the transfer of membership interests, the name of the permittee for the facility was changed from TC Ravenswood LLC to Helix Ravenswood, LLC. Other than this simple name change, there have been no changes to the facility since the previous application was submitted.

{C0054136.1}

In furtherance of these changes, please find enclosed an Application for Permit Transfer for the above-referenced SPDES and Title V permits, as well as an updated submission of the April 12, 2017 Water Withdrawal Permit materials reflecting this change. We also attach a copy of the Certificate of Amendment relating to the name change.

Additionally, we request that you treat the enclosed documents related to the Water Withdrawal permit, with all accompanying attachments, as the permit renewal application in anticipation of its expiration on October 31, 2017. Please advise if any additional information or submissions are needed in connection with these materials.

Very truly yours,

COUCH WHITE, LLP

Alita J. Giuda

AJG/MWG/eb
Enclosures

cc: Kathy French (via e-mail)
Tanja Grzeskowitz (via e-mail)
Erin Shirkey (via e-mail)

EXHIBIT 1

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

May 2013

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME Helix Ravenswood, LLC

2. FACILITY NAME Ravenswood Generating Station

3. PROJECT TYPE
☑ Water Withdrawal ☐ New Public Water Supply Service Area or Extension
☐ Land Acquisition for Public Water Supply ☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE
☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☐ Cooling ☐ Industrial
☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☑ Power Production ☐ Recreational
☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New
If this is an existing public water supply, provide the most recent WSA or WWA Number:
If other than public water supply, list other existiing or pending related DEC permits (e.g., SPDES, Mining, Dam):
Water Withdrawal Permit ID 2-6304-00024/00054; SPDES NY 0005193

6. WATER WITHDRAWAL SOURCE ☑ Surface Water Water Body Name(s)
☐ Groundwater Nearest Surface Water Body Distance From Well (in feet)

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 1,527,640 gallons per day Source Name East River
Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes
If yes, ☐ Existing ☐ New From Basin To Basin

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	Not Applicable	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	Not Applicable
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	See Figure #1	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	Not Applicable
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	See Figures #'s 1 & 2	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	Not Applicable
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	Not Applicable	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	See Section (K)
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	See Appendix A	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	Not Applicable
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	See Appendix B	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	See Section (M)
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	See Appendix C	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	Not Applicable

Clear Form

Applicant Signature Kathy French Name KATHY FRENCH Date 4/28/17

Title VICE PRESIDENT ENVR

May 2013

INSTRUCTIONS

Water Withdrawal Application Supplement Form (WW-1)

1. Before completing this form, please carefully review the Water Withdrawal Permit Program page located on the Department's website at http://www.dec.ny.gov/lands/55509.html (non-agricultural facilities) and http://www.dec.ny.gov/lands/86747.html (agricultural facilities). Note that applications by existing systems for an Initial Permit shall be submitted in accordance with the schedule established in NYCRR Part 601.7(b)2 as shown in Table 1 at http://www.dec.ny.gov/lands/86935.html.
2. This form is to accompany the Joint Application Form. The Joint Application Form, Supplement WW-1 and their instructions are available on the Department's website at http://www.dec.ny.gov/permits/6222.html.
3. NYSDEC strongly encourages electronic submission of supporting documents. Submit 3 completed copies of the Joint Application Form, Supplement WW-1 and all attachments to the NYSDEC Regional Permit Administrator (refer to the Joint Application Instructions).
4. Applicant Name - Applications must be in the name of the owner of the water withdrawal system involved. For acquisitions of existing systems, the applicant should be the prospective owner.
5. All Water Withdrawal Applications must include a completed Water Conservation Program Form demonstrating that the applicant has developed and implemented a Water Conservation Program that incorporates environmentally sound and economically feasible water conservation measures. Information is available on the Department's website at http://www.dec.ny.gov/lands/86945.html.
6. Locate and describe all facilities and service areas on appropriate maps and plans to be submitted with this form. Choose a scale for this location map that allows you to accurately define all groundwater wellhead and surface water intake positions, and the overall project area within the county or town. Include coordinates for all wellheads and intakes on the Joint Application Form, Item 8, and on additional sheets if needed.
7. Water Withdrawal Amounts (Item 9) - Convert to gallons per day (GPD). In order to convert from gallons per minute (GPM) to GPD, multiply GPM x 1440.
8. All facts and opinions expressed in the application must be documented in appropriate legal, engineering, or other papers attached as exhibits and noted in Item 10 of this form.
9. If more room is needed to complete any item, provide the information as attachments.
10. All Water Withdrawal Applications must include the following items in a separate exhibit:
    a) Names, titles, mailing addresses, and phone numbers of the Applicant's Attorney; Engineer; and other consultants (planners, geologists, etc.) serving the applicant.
    b) A list of all maps and exhibits accompanying the application.

NYCRR Part 601
Water Withdrawal Permit Application
601.10 Requirements

(a) Project Authorization
The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. The current facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. The water withdrawal system is not a public supply system and is not applicable to the requirements set forth in subpart (a).

(b) General Map
See Drawing # 1-Ravenswood Generating Station General Map.

(c) Watershed Maps
See Drawing # 2- Watershed maps

(d) Contract Plans
No contract plans exist for the water withdrawal system. The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility.

(e) Engineer's Report
See Appendix A- Engineer's Report

(0 Water Conservation Program
See Appendix B-Water Conservation Form

(g) Annual Water Withdrawal Report
See Appendix C- 2016 Water Withdrawal Report

(f) Acquisition Maps
The water withdrawal system is an existing system that was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. Land acquisition maps are not required for the existing water withdrawal system.

(g) Water Analyses
The water withdrawal system is not a public supply system and chemical and bacteriological analyses are not performed. Therefore, Ravenswood is not applicable to the requirements set forth in subpart (i).

(h) Treatment Methods

The water withdrawal system is not a public supply system required to meet Department of Health standards and is therefore not applicable to the requirements set forth in subpart (j).

(k) Project Justification

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for Units 10, 20 & 30 is currently withdrawn from the East River through intake structures and is routed through steam surface condensers.. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed to back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River The siting of the electric generating facility along the East River is ideal due to the plentiful surface water supply for once through cooling. The East River's mean tidal flow is about 240,000 cubic feet per second (1.79 million gallons per second) allowing for Ravenswood to adequately and reasonably withdraw and return the necessary water for cooling.

The installation of variable frequency drives (VFD) on the circulating water pumps (CWP) has allowed for vast conservation improvements and an overall reduction in water withdrawn from the East River. The installation of VFDs has reduced electricity consumed by the CWP while in VFD operation due to the slower motor speeds. More importantly, the installation of VFDs has led to a considerable overall reduction in the volume of surface water withdrawn from the East River. The upgrades performed on the CWPS have directly made the water withdrawal system an environmentally sound and economically feasible project. In addition to the conservation of water withdrawn from the East River, the VFDs installed on the CWPs have also helped reduce the overall adverse environmentally impact associated with the impingement and entrainment of marine organisms. The volume of water withdrawn is directly proportional to the number of organisms impinged and entrained. A flow reduction achieved by the use of variable speed pumps has a proportional reduction to impinged and entrained organisms. The installation and implementation of VFDs is projected to reduce impingement mortality and entrainment of organisms by 90% and 65% from baseline, respectively. The current water withdrawal system utilized at Ravenswood complies with the various federal, state, and local laws.

(l) Canal Withdrawal Approval

The water withdrawal system is not located on a canal and is therefore not applicable to the requirements set forth in subpart (l).

(m)Transmittal Letter

(1)
Applicant:
Helix Ravenswood, LLC
Daniel O'Donnell
38-54 Vernon Blvd.
Long Island City, NY 11101

Kathy French
1700 Broadway, 35th Floor
New York, NY 10019

Alita Giuda
Couch White LLP
P.O. Box 22222
540 Broadway
Albany, NY 12201-2222

(2) If required, a public venue will be determined at the appropriate time.

(3) Publications in local newspapers for facility permits are published in the 'Daily News'.

(n) Great Lakes-St. Lawrence River BasinThe water withdrawal system is not located within the Great Lakes or St. Lawrence River basin and is therefore not applicable to the requirements set forth in subpart (n).

Appendix A

A-298

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

Professional Engineer's Certification

Name: Erwin Schaub
Firm: TC Ravenswood LLC
Address: 38-54 Vernon Blvd
Long Island City, New York 11101

Signature: _____

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

1. **General description of the project and the engineering features of the existing water withdrawal system.**

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for units 10, 20, and 30 is withdrawn from the East River through intake structures and is routed through steam surface condensers. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River. Unit 40 and the simple cycle gas turbines do not utilize a once through cooling water system.

Condenser cooling water and service water for units 10, 20 and 30 is drawn into a protected embayment and intake structure. Units 10 and 20 each have four water intakes bays; two bays provide water to each circulator. Unit 30 has six intake bays; three bays provide water to each circulator. Wooden debris skimmers (ice breakers) are located at the entrance to each intake bay to prevent floating material from entering the bays. The continuous traveling water screens (3/8 inch square mesh) are equipped with high pressure (screen wash) spray systems to wash off impinged fish, crabs, and debris from the riverside of the screen. The wash water and impinged material is then diverted back to the East River though low stress fish return piping.

Each of the three units is equipped with two motor driven circulating water pumps. At Units 10 and 20; each pump has a rated capacity of 107,000 gallons per minute (GPM). Unit 30 pumps are rated at 268,500 GPM. Each motor has been retrofitted with variable frequency drives (VFD). A VFD is a device that rectifies 60 cycle AC current to direct current. Then using insulated gate bipolar transistors (IGBT's), converts the DC supply to a square wave alternating supply at adjustable frequency. This causes the motor to operate at variable speeds. The VFD allows the facility to decrease the circulating water pump motor speed and consequently proportionately decrease the circulating water flow. Operation at less than full flow capacity directly relates to conservation.

A service water system (Low Pressure Salt Water Pumps) also provides water from the East River for cooling small equipment throughout the facility and

E.S.

turbine-generator cooling. Units 10 and 20 each have a Low Pressure Salt Water Pump with a shared spare and unit 30 has three Low Pressure Salt Water Pumps.

2. **A listing of all existing sources of water supply, including wells, surface withdrawals, and any purchases sales or transfer of water.**

Existing Source	Water Supply
11 Circulating Water Pump	Surface-East River
12 Circulating Water Pump	Surface-East River
21 Circulating Water Pump	Surface-East River
22 Circulating Water Pump	Surface-East River
31 Circulating Water Pump	Surface-East River
32 Circulating Water Pump	Surface-East River
11 Low Pressure Salt Water Pump	Surface-East River
21 Low Pressure Salt Water Pump	Surface-East River
1-2 Low Pressure Salt Water Pump	Surface-East River
31 Low Pressure Salt Water Pump	Surface-East River
32 Low Pressure Salt Water Pump	Surface-East River
33 Low Pressure Salt Water Pump	Surface-East River
Unit 10, 20, & 30 Screen Wash Pumps (5)	Surface-East River
Water Meter House 1, 2, 3 & 4	Purchase - NYCDEP

3. **Evaluation of a practicable alternative to the proposed source shall include an analysis of increased water conservation measures as a means to reduce or eliminate the need for the proposed source.**

Cooling water is a critical component to the production of electricity at the station. Total elimination of cooling water is not a practical alternative. However, conservation methods are a viable option that has been implemented at the facility in order to reduce cooling water withdrawn from the East River. Circulating Water Pumps (CWP) have been retrofitted with VFDs to allow for reduced surface water withdrawal at reduced generation loading and reduced cooling water temperatures. An analysis of the first ten months of cooling water withdrawal from the East River was performed on the CWPs with VFD operation. The average hourly CWP GPM was calculated by utilizing continuously recorded motor speeds. The hourly CWP GPM was then compared to average CWP GPM if VFDs had not been installed (full flow operation). The difference between the two averages was then used to determine the water conservation directly related to the retrofit of the CWP on a daily basis for all units. Monthly averages are shown below. The overall reduction in surface water withdrawn from the East River is significantly reduced with the use of VFD operation of the CWPs. The conservation methods utilized at Ravenswood have directly led to substantial conservation of surface water and have been adequately implemented.

E.S.

A-301

	Unit 10			Unit 20			Unit 30			
	Unit 10 CWP AVG. GPM with VFD Operation	Unit 10 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 20 CWP AVG. GPM with VFD Operation	Unit 20 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 30 CWP AVG. GPM with VFD Operation	Unit 30 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	AVG. Water Withdrawal Conservation All Units (GPD)
July 2012	151,030	179,484	40,933,475	157,429	189,839	46,670,534	338,158	450,387	161,609,894	249,253,904
August 2012	155,883	202,536	38,956,157	167,411	189,839	32,295,838	165,404	225,194	86,096,285	157,348,281
Sept 2012	121,097	168,290	27,961,262	158,758	175,253	23,753,039	22,658	24,587	2,777,300	54,491,601
October 2012	168,933	193,290	35,074,172	52,196	65,581	19,274,155	364,899	537,000	247,826,058	302,174,485
November 2012	103,902	189,072	8,469,802	131,005	160,890	43,032,785	325,356	389,758	92,738,741	144,241,328
December 2012	214,000	214,000	0	43,808	55,226	16,441,232	0	0	0	16,441,232
January 2013	107,490	214,000	34,087,195	86,162	177,103	114,502,914	0	0	0	148,590,109
February 2013	24,563	34,516	10,485,108	2,779	5,713	3,693,642	77,542	138,581	87,895,382	102,074,132
March 2013	0	0	0	123,081	186,387	91,160,256	0	0	0	91,160,256
April 2013	9,107	20,710	17,264,262	95,504	192,400	139,530,196	0	0	0	156,237,546

4. **For public water supply systems, the present and projected population of the water service area and the present and projected consumption rate.**

   Not applicable to Ravenswood Generating Station.

5. **For public water supply systems, the radius of land owned or controlled for wellhead protection surrounding any proposed groundwater withdrawal, or the water quality classification and a copy of any Department of Health Watershed Rules and Regulations for any proposed surface withdrawal.**

   Not applicable to Ravenswood Generating Station.

6. **The general-character and extent and essential design features of proposed controlling, diverting or regulatory works.**

   Implementation of site specific procedures on the operation of the CWPs has been employed at the site. Personnel are trained in the operation of the equipment and are instructed on CWP speeds for maximum conservation of water withdrawal.

7. **The proposed instantaneous and maximum daily rates of withdrawal; the existing and projected daily average, daily maximum, and 30 day maximum water demands of the withdrawal system;**

E.S.

2012 Maximum daily withdrawal rate	1,534.75 MGD
2012 Existing Daily Average	486.49 MGD
Projected Daily Average	486.49 MGD
Daily Maximum	1,489.70 MGD
2012 30 Day Maximum Demand	27,933.85 MG30DAY

8. **When applicable, any fire suppression flows which can be supplied, including the duration for which such flows can be maintained.**

   Water for fire suppression is fed from the city water supply (NYC DEP). The city water system supplies the suction to fire pumps which discharge to various fire protection systems located at the facility.

Fire Protection System	Flow
Dock Foam Fire Suppression System	3,000 GPM
GT Foam Fire Suppression System	1,000 GPM
Unit 40 Fire Suppression system	3,000 GPM
10, 20 & 30 Standpipe Booster Pump	750 GPM
06 Tank Foam Fire Suppression System	500 GPM
Rainey Foam Fire Suppression System	1,000 GPM
10/20 Transformer Fire Suppression System	750 GPM

9. **For public water supply systems, the location, extent and character of proposed treatment.**

   Not applicable to Ravenswood Generating Station.

10. **For groundwater sources, well drinking logs, monitoring well locations and pump test data and analyses of results.**

    Not applicable to Ravenswood Generating Station.

11. **For surface water sources, information on rainfall, stream flows and classifications, contributing watershed size, location of nearby USGS stream gauges, other upstream water withdrawals, safe yield analysis or passby flow calculations and proposed withdrawal methods including intake structure design and screening.**

    The Hudson-Raritan Estuary System is a coastal plain estuary dominated by the drowned river valley of the Hudson River estuary. The estuary system extends 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The freshwater tributary to the estuary system drains a total of about 16,300 square miles. Seasonal and inter-annual variation of stream flow of the Hudson River recorded at Green Island, New York, near Troy (USGS gage 0 1358000) is characterized by high flow during March through May, with monthly mean peak flow of 32,719 cubic

E.S.

feet per second (CFS). The mean oscillating tidal flow in the East River reaches about 240,000 CFS. The estuary system is comprised of all tidally inundated areas within these drainage basins including tidal straights; Harlem and East Rivers. The East River extends 16 miles from the battery to Throgs Neck and Willets Point at the Long Island Sound. The tidal straight is divided into distinct hydrological sections. The East River is narrow and bulk-headed along most of the length, and is divided into east and west channels where it passes Roosevelt Island. The station is located on the east channel from which the station withdraws its cooling water. Maximum river velocities are high, reaching 5.0 ft/sec. The station utilizes a once through cooling water system. The intake structures are recessed 60 feet inside the bulkhead line. Units 10 and 20 each have four water intake bays that measure 11.2 feet wide and by 17 feet deep at mean low water (MLW). Unit 30 has six intake bays that each measure 11.2 feet wide by 24 feet deep (MLW). The existing technology includes 14 vertical continuous traveling screens outfitted with 3/8 inch square mesh and high pressure wash to remove impinged material.

E.S.

Appendix B

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER WITHDRAWALS

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
***SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM**

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of withdrawal will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Ravenswood Generating Station		DEC No. For Dept Use	
Street Address: 38-54 Vernon Blvd.		WWA No. For Dept Use	
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Contact Name: Daniel O'Donnell			
Street Address: 38-54 Vernon Blvd.			
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Applicant's Telephone: 718 706-2818		**Contact's Telephone:** 718 706-2818	

II. SOURCES OF WATER WITHDRAWAL

[State capacity and withdrawal in gallons per minute (**gpm**), gallons per day (**gpd**), or million gallons per day (**mgd**).]

Source Type: **S** = Surface supply, **G** = Groundwater supply, **P** = Purchased supply
Source Status: **R** = Regular use, **S** = Standby use, **E** = Emergency use, **I** = Inactive, **D** = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
East River	S	R	1,527.84 mgd	668 mgd	1963
NYCDEP	P	R		1 mgd	

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters?	No
How often are they read? Service water meters are read monthly.	
How often are they calibrated? Meters are not calibrated at this time.	
Are there secondary meters located within the facility or system? Yes	If yes, how many? 15
Describe secondary metering system if applicable: All incoming city water is metered by a NYC DEP service water meter. Inside the plant various secondary water meters are installed to determine water usage throughout the site. Surface water is withdrawn from the East River and flow rate is determined by pump speed.	

Water Production for Calendar Year		
Total metered water production:	243,886,199,271	gallons per year
Average day production (total/days of use):	668,000,000	gallons per day
Maximum day production (largest single day):	1,452,000,000	gallons per day

What are your future goals and schedule for water metering?
City water connections from the NYD DEP water system are currently metered to determine the total water purchased. Multiple water meters are installed throughout the facility and are read monthly to determine water usage at different parts of the stream-electric generation process. Currently, primary and secondary water meters are being reviewed to determine the best practice for calibration.

Best Management Practices:

** 100% metering of all sources of water withdrawal.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

**** Water Audit for Calendar Year**

Total metered water production (from previous section)			Total	243,886,199,271	
Sources of Water Use		**Metered or Estimated?**			**% of Total**
Process Water		Metered	subtract	169,937,382	0.07
Cooling Water		Estimated	subtract	243,621,177,061	99.52
Wash Water			subtract		
Sanitary			subtract		
Incorporation into Product			subtract		
Irrigation			subtract		
Other	HP wash water for screens	Estimated	subtract	950,848,283	0.39
Other			subtract		
TOTAL UNACCOUNTED-FOR WATER			Sub-total		
Unaccounted-for water breakdown	Meter under-registration		subtract		
	Unrepaired leakage		subtract		
	Other:		subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html				0	

What are your future goals for water system auditing?

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? No
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? No

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired

What are your future goals for water system leak detection and repair?
The site is continuously manned with personnel and water usage data is analyzed monthly. If a leak is detected in underground piping the leak is addressed as soon as possible.

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:

Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:

Describe any equipment or processes that promote the efficient use of water by your facility:
Variable Frequency Drives (VFD) are installed on the Circulating Water Pumps (CWP). The CWPs withdraw surface water from the East River for cooling. VFDs allow for the pumps to operate at less than full speed operating at reduced loads and cooler water temperatures. The reduced speed directly correlates to reduced water withdrawal.

Does your system include storage tanks or ponds to meet short term water demands?
Yes, demineralized water storage tanks are used.

Describe any actions that can be taken to reduce water use during times of drought:
VFD operation of the CWP in order to reduce surface water withdrawal.

What are your future goals for recycling or reducing water usage?
Continuing use of CWPs in VFD to reduce surface water withdrawal at reduced loads.

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

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VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Ravenswood Generating Station	WWA No. For Dept Use

Signature: Kathy French	Signatory: KATHY FRENCH
Title: VICE PRESIDENT ENVIRONMENTAL	Date: 7/28/17

DISCUSSION:

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

Appendix C

Dec. '15

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management
625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by March 31st each year

Prior to filling out this form, please read the instructions on the last page

This form not for Agricultural Facilities

Section 1 of 6 - Basic Information

Facility Name: Ravenswood Generating Station | Facility Street Address: 38-54 Vernon Blvd | Reporting Year: 2016

City: Long Island City | Zip: 11101 | Town: New York | County: Queens

Contact Name: Tanja Grzeskowitz | Email: tanja_grzeskowitz@transcanada.com | Telephone: (718)706-2705

Source Name	Source Type	Well Depth	Max Rate	Units
East River	S		1,527.84	MGD
NYC DEP	P			MGD

Average Day Withdrawal	Units	Maximum Day Withdrawal	Units	Maximum System Capacity or NYSDEC Permitted Withdrawal	Units
668	MGD	1,452	MGD	1,527.84	MGD

Submitted by: Tanja Grzeskowitz | Title: Environmental Specialist | Date: 3/24/2017

Water Withdrawal Category
(Check One)

- (•) Agricultural - Must use form at http://www.dec.ny.gov/lands/86904.html
- ( ) Bottled / Bulk Water
- ( ) Commercial
- ( ) Environmental
- ( ) Industrial
- ( ) Institutional
- ( ) Mine Dewatering
- ( ) Oil / Gas Production
- Power Production:
  - (•) Fossil Fuel
  - ( ) Nuclear
  - ( ) Other Pwr
- ( ) Public Water Supply
- Recreational:
  - ( ) Golf Course
  - ( ) Snow Making
  - ( ) Other Rec
- ( ) Other Category

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AR-0000275

Water Withdrawal Reporting Form

Section 2 of 6 - Water Use

Calculation Method: P

If multiple methods are used, choose the one that measures the greatest percentage of water in your system. E = Estimated M = Metered readings W = Flow through a weir P = Flow through a pipe or pump run times C = Pump curve calculation

Units: Must be in gallons per month	January	February	March	April	May	June
Withdrawn	5,990,898,314	6,471,911,282	11,623,733,453	13,106,449,212	28,927,208,695	28,736,859,324
Transferred / Imported / Purchased	11,014,952	11,918,643	17,194,792	17,879,532	18,095,172	23,478,681
Consumed	8,564,309	9,892,065	14,479,564	15,948,372	15,297,236	20,836,941
Returned	5,993,348,957	6,473,937,860	11,626,448,681	13,108,380,372	28,930,006,631	28,739,501,514
Diversions In / Out, if any						

For Transferred water or Diversions Out, use a negative (-) sign

Units: Must be in gallons per month	July	August	September	October	November	December
Withdrawn	33,811,412,270	37,910,845,839	31,127,152,079	27,395,382,010	8,477,890,309	10,085,642,964
Transferred / Imported / Purchased	31,037,059	27,017,878	22,488,715	17,895,327	9,214,502	13,578,267
Consumed	8,696,041	22,190,496	19,992,175	15,134,033	8,058,332	10,847,818
Returned	33,833,753,288	37,915,673,221	31,129,648,619	27,389,143,304	8,479,046,479	10,088,373,413
Diversions In / Out, if any						

Describe location of returned water: Water is returned to the East River via SPDES outfalls 001, 008, 009, 010. These points are annotated as discharges 1 through 4 respectively on the attached map.

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AR-0000276

Water Withdrawal Reporting Form

Section 3 of 6 - General Map and Interbasin Diversions

General Map Required

Please submit a map showing the location of all withdrawals and any points of return flow. Precise locations will remain confidential.

A map is not necessary if one was submitted in a previous year and no changes have occurred.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. Please ensure that the map scale is sufficient to be able to see specific locations. Designate all water withdrawal locations on the map. Add markers to locate any related dams, weirs, or diversion structures. Label the name of each point.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290. Include cover letter identifying facility owner.
- Print, scan and email to awqrsdec@dec.ny.gov
- Copy electronically and email to awqrsdec@dec.ny.gov

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, go to the DEC Major Drainage Basins map (http://www.dec.ny.gov/lands/56800.html). Then enter the basin ID by using the drop down menus under Originating and Receiving Major Drainage Basin headings below. Describe the locations of originating and receiving sites in the site description boxes (e.g. Town water intake on Route 12 at northern end of Pleasant Lake to Stony Reservoir near Bear Road).

Originating Major Drainage Basin	Receiving Major Drainage Basin
Basin Name	Basin Name
Originating Site Description	Receiving Site Description

Water Withdrawal Reporting Form

Section 4 of 6 - Water Conservation and Efficiencies

Instructions: Check one of the boxes below for EITHER Section A or Section B, as appropriate for your facility type. A list of questions pertinent to that facility type will appear. Please answer all questions.

☐ Section 4A: Public Water Supply Facilities

☒ Section 4B: Non-Public Water Supply Facilities

If the incorrect box is selected, just scroll back up a page and change selection

NOTE: All permitted water withdrawal systems must have a Water Conservation Program.

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Water Withdrawal Reporting Form

Section 4B: Non-Public Water Supply Facilities

(see permitting schedule based on NYCRR Part 601.7)

Please answer all the questions in this section

1. Are all sources of supply including major interconnections equipped with master meters? ○ Yes ◉ No

2. How many times were master meters read in the past year? 12

3. How many times were master meters calibrated in the past year? 0

4. Are there secondary meters located within the facility or system? ◉ Yes ○ No

5. Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station circulating water pumps have variable speed drives and vacuum priming systems to allow for variable speed operation. The circulating water pumps are operated at reduced speeds during periods of reduced load, cool weather conditions, or when full flow operation is not required. The reduced operation of the pumps saves millions of gallons from being withdrawn from the East River daily.

Water Withdrawal Reporting Form

Section 5 of 6 - Outside Sales to Other Water Systems or Facilities

Instructions:

Permittees must record any sales to outside water systems or facilities. If this applies to your facility, please check the box titled, "Section 5 - Outside Sales" and fill in the information requested.

If your facility does not sell water to systems or facilities other than your own, skip the section by clicking the box for "No Outside Sales".

☐ Section 5 - Outside Sales

☒ No Outside Sales

If the incorrect box is selected, just scroll back up a page and change selection

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Water Withdrawal Reporting Form

Section 6 of 6 - Forward Form To NYSDEC

Unless required fields have not been filled in, the form can now be sent to NYSDEC. To send the form electronically, simply click the green box titled, "Click here to submit by email after filling out all sections of this form". Alternatively, the form can be printed and then mailed or faxed to NYSDEC at the address found on the first page.

When the form is sent by clicking the "submit by email" button, an automatic confirmation is returned. If this does not arrive within 10 minutes, please contact awqrsdec@dec.ny.gov

Click here to submit by email after filling out all sections of this form

Print Form

Print Blank Form For Handwritten Submission

Clear Entire Form

Water Withdrawal Reporting Form

Instructions & Definitions

Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal to or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn.
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Maximum Sys Capacity or Permitted Withdrawal	If permit information is unknown, contact NYSDEC at awqrsdec@dec.ny.gov or 518-402-8182. Maximum system capacity is the sum of all sources simultaneously pumping at full rate.
Calculation Method	If multiple methods are used, choose the one that measures the greatest percentage of water in your system E = estimated. M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. C = Pump curve calculation.
Withdrawn	Amount of water removed from all sources. This includes groundwater and/or surface water.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers. Irrigation is considered "consumed water".
Returned	Amount of water discharged to a water treatment system or discharged back to the environment. Irrigation is not returned water.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

Appendix D

NEW YORK STATE | Department of Environmental Conservation | Office of General Services | Department of State

US Army Corps of Engineers

JOINT APPLICATION FORM

For Permits for activities activities affecting streams, waterways, waterbodies, wetlands, coastal areas, sources of water, and endangered and threatened species.

You must separately apply for and obtain Permits from each involved agency before starting work. Please read all instructions.

1. **Applications To:**

>NYS Department of Environmental Conservation ☑ Check here to confirm you sent this form to NYSDEC.

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Wild, Scenic and Recreational Rivers
- ☐ Coastal Erosion Management
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Incidental Take of Endangered / Threatened Species

>US Army Corps of Engineers ☐ Check here to confirm you sent this form to USACE.

Check all permits that apply: ☐ Section 404 Clean Water Act ☐ Section 10 Rivers and Harbors Act

Is the project Federally funded? ☐ Yes ☐ No

If yes, name of Federal Agency:

General Permit Type(s), if known:

Preconstruction Notification: ☐ Yes ☐ No

>NYS Office of General Services ☐ Check here to confirm you sent this form to NYSOGS.

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

>NYS Department of State ☐ Check here to confirm you sent this form to NYSDOS.

Check if this applies: ☐ Coastal Consistency Concurrence

2. **Name of Applicant**

Helix Ravenswood, LLC

Taxpayer ID (if applicant is NOT an individual)

11-3484082

Mailing Address

38-54 Vernon Blvd.

Post Office / City: Long Island City

State: NY

Zip: 11101

Telephone: 718.706.2818

Email:

Applicant Must be (check all that apply): ☑ Owner ☐ Operator ☐ Lessee

3. **Name of Property Owner (if different than Applicant)**

Mailing Address

Post Office / City

State

Zip

Telephone

Email

For Agency Use Only	Agency Application Number:

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

4. **Name of Contact / Agent**

Daniel O'Donnell

Mailing Address	Post Office / City	State	Zip
38-54 Vernon Blvd.	Long Island City	NY	11101

Telephone 718-706-2818 Email Daniel.odonnell@ethosenergygroup.com

5. **Project / Facility Name**

Ravenswood Generating Station

Property Tax Map Section / Block / Lot Number:

Queens Boro Block 357 Lot 1

Project Street Address, if applicable	Post Office / City	State	Zip
38-54 Vernon Blvd.	Long Island City	NY	11101

Provide directions and distances to roads, intersections, bridges and bodies of water

☐ Town ☐ Village ☑ City

Long Island City	County: Queens	Stream/Waterbody Name: East River

Project Location Coordinates: Enter Latitude and Longitude in degrees, minutes, seconds:

Latitude: 40 ° 45 ' 41 " Longitude: 73 ° 56 ' 39 "

6. **Project Description:** Provide the following information about your project. Continue each response and provide any additional information on other pages. **Attach plans on separate pages.**

a. Purpose of the proposed project:

This project seeks necessary updates to the water withdrawal permit due to the June 2, 2017 transfer of all membership interests in TC Ravenswood LLC from TransCanada Facility USA, Inc. to Helix Generation. TC Ravenswood LLC has changed its name to Helix Ravenswood, LLC, however, there are no other changes to TC Ravenswood LLC's status as owner and responsible party under the Permit. Further, no physical or operational changes are proposed.

b. Description of current site conditions:

The site is operating under the conditions set forth in its current permit.

c. Proposed site changes:

No changes to the site are proposed. As no changes are proposed, the figures and other information included with the original permit application are being submitted for the Department's use.

d. Type of structures and fill materials to be installed, and quantity of materials to be used (e.g., square feet of coverage, cubic yards of fill material, structures below ordinary/mean high water, etc.):

No installation of any structures, fill materials or other objects or materials is proposed.

e. Area of excavation or dredging, volume of material to be removed, location of dredged material placement:

No excavation or dredging is proposed.

f. Is tree cutting or clearing proposed? ☐ Yes If Yes, explain below. ☑ No

Timing of the proposed cutting or clearing (month/year):

Number of trees to be cut: Acreage of trees to be cleared:

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

g. Work methods and type of equipment to be used:
No work is proposed.

h. Describe the planned sequence of activities:
N/A

i. Pollution control methods and other actions proposed to mitigate environmental impacts:
N/A. The requirements of the existing permit will continue to be followed.

j. Erosion and silt control methods that will be used to prevent water quality impacts:
N/A. The requirements of the existing permit will continue to be followed.

k. Alternatives considered to avoid regulated areas. If no feasible alternatives exist, explain how the project will minimize impacts:
No alternatives have been considered because no changes to the operations or site are proposed.

l. Proposed use: ☐ Private ☐ Public ☑ Commercial

m. Proposed Start Date: n/a Estimated Completion Date: n/a

n. Has work begun on project? ☑ Yes If Yes, explain below. ☐ No
Ravenswood Generating Station has been in operation since 1963. The site has been operating pursuant to its Water Withdrawal permit since November 15, 2013, with Notice of Intent to Modify Letter dated February 19, 2014.

o. Will project occupy Federal, State, or Municipal Land? ☐ Yes If Yes, explain below. ☑ No

p. List any previous DEC, USACE, OGS or DOS Permit / Application numbers for activities at this location:
The current Water Withdrawal Permit is Permit ID 2-6304-00024/00054.

q. Will this project require additional Federal, State, or Local authorizations, including zoning changes?
☐ Yes If Yes, list below. ☑ No

JOINT APPLICATION FORM – Continued. Submit this completed page as part of your Application.

7. **Signatures.**
Applicant and Owner (If different) must sign the application.
Append additional pages of this Signature section if there are multiple Applicants, Owners or Contact/Agents.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief.

Permission to Inspect - I hereby consent to Agency inspection of the project site and adjacent property areas. Agency staff may enter the property without notice between 7:00 am and 7:00 pm, Monday - Friday. Inspection may occur without the owner, applicant or agent present. If the property is posted with "keep out" signs or fenced with an unlocked gate, Agency staff may still enter the property. Agency staff may take measurements, analyze site physical characteristics, take soil and vegetation samples, sketch and photograph the site. I understand that failure to give this consent may result in denial of the permit(s) sought by this application.

False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the NYS Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

Signature of Applicant Kathy French — Date 7/28/2017

Applicant Must be (check all that apply): [X] Owner [X] Operator [ ] Lessee

Printed Name KATHY FRENCH — Title VICE PRESIDENT ENVR

Signature of Owner (if different than Applicant) — Date

Printed Name — Title

Signature of Contact / Agent — Date

Printed Name — Title

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Application Number

(Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative:

Printed Name — Title

Signature — Date

Figure 1

Ravenswood Generating Station
General Map 601.10(b)

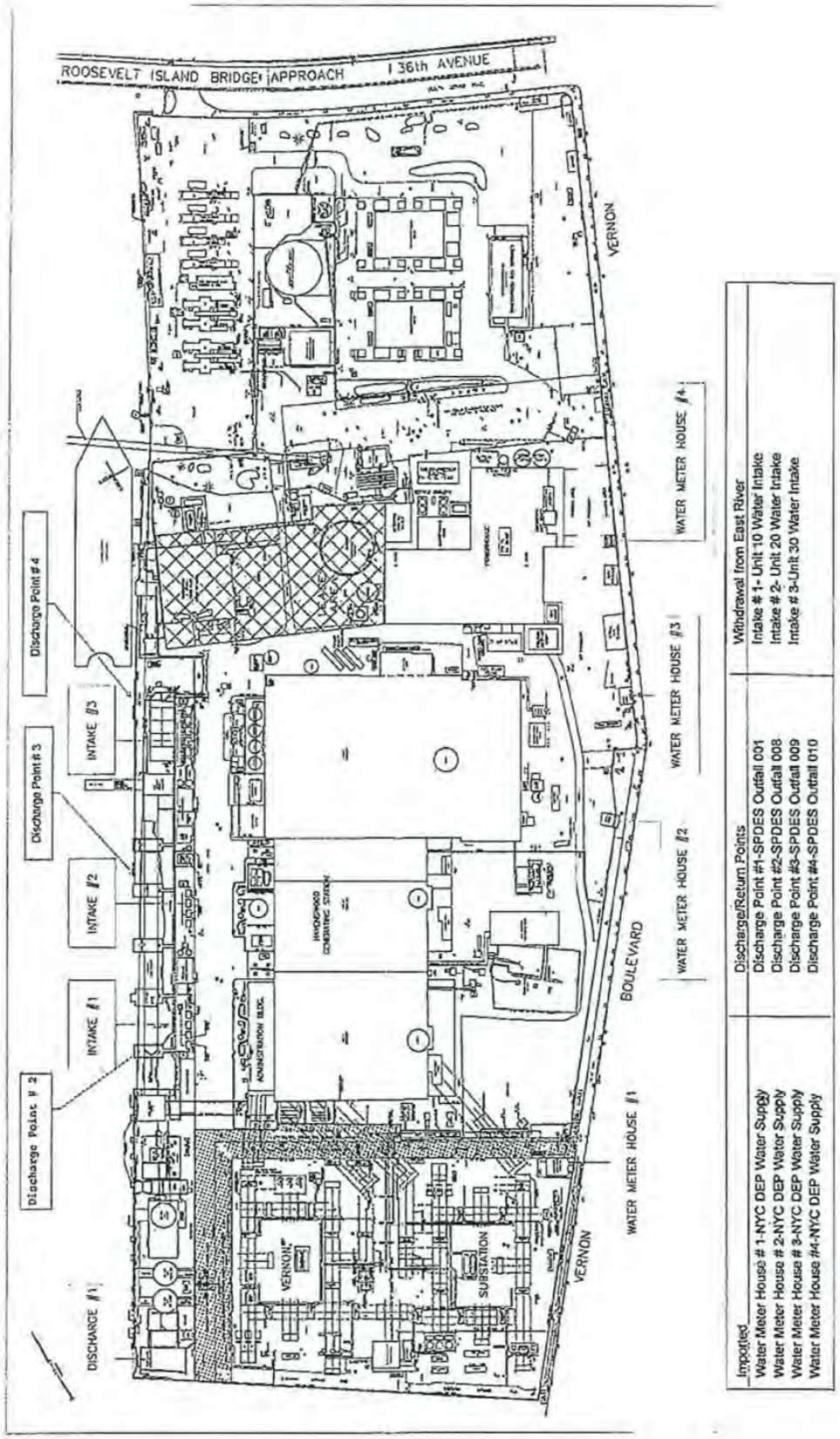


Figure 2

Source: USGS Central Park, NY-NJ 2013

A-328

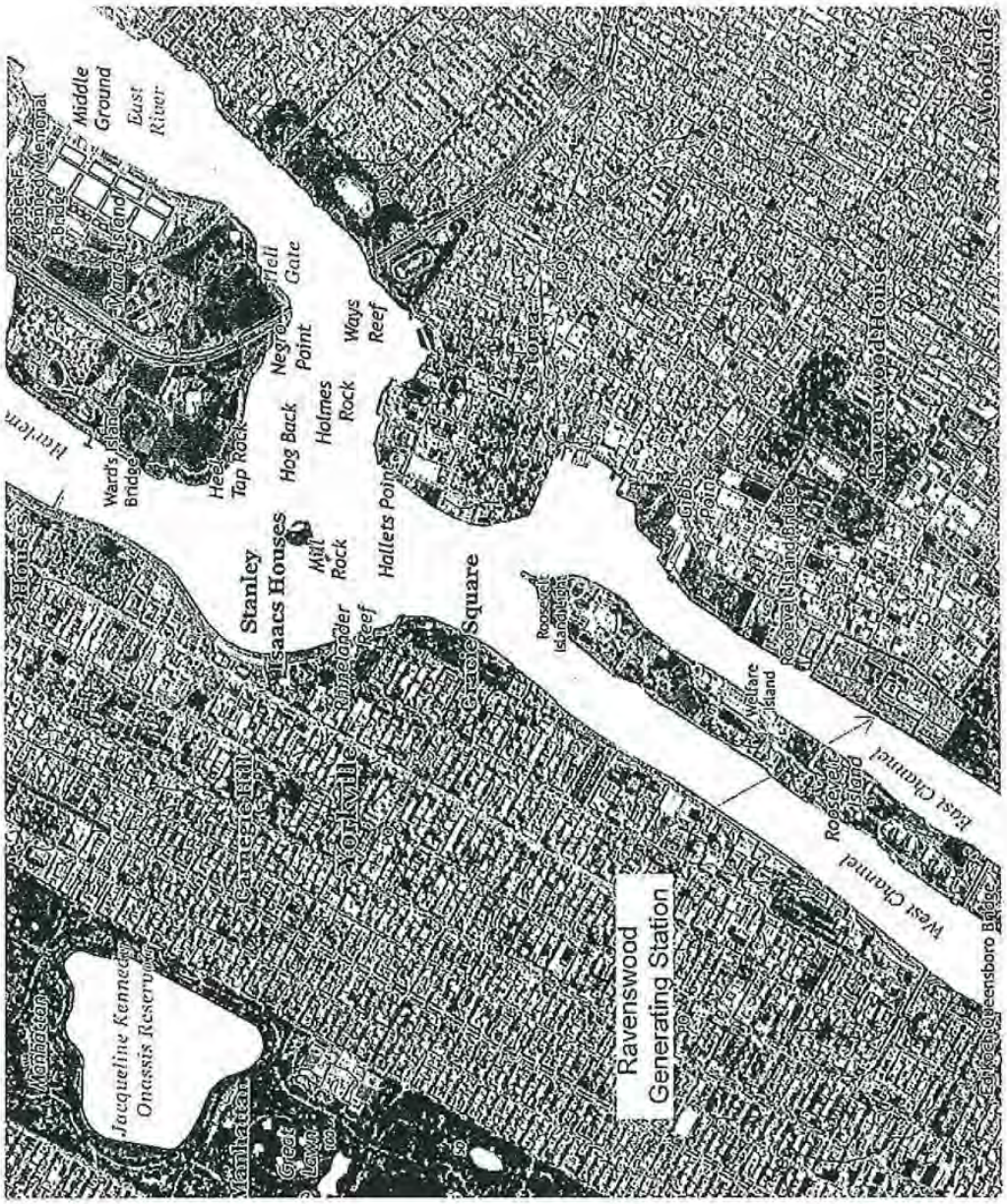

Ravenswood Generating Station
Middle Ground
East River
Ward's Island Bridge
Hog Back
Negro Point
Holmes Rock
Ways Reef
Hallets Point
Stanley Isaacs Houses
Mill Rock
Carl Schurz Park
Gracie Square
Yorkville
Carnegie Hill
Jacqueline Kennedy Onassis Reservoir
Roosevelt Island
Roosevelt Island Bridge
Welfare Island
East Channel
West Channel
Queensboro Bridge
Astoria
Woodside

Figure 3

A-330

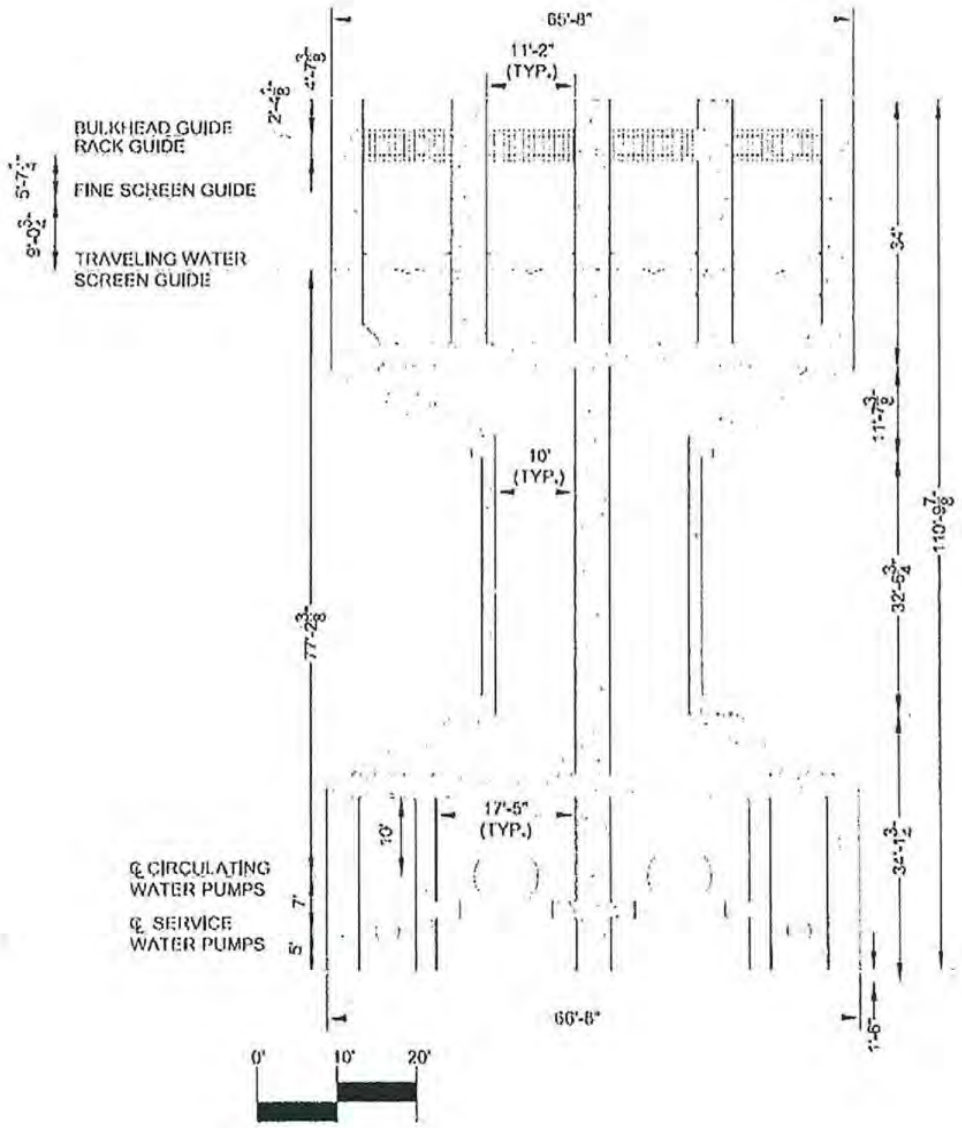


Figure 3 – Ravenswood Generating Station Unit 10 CWIS – Plan
(Unit 20 is Identical)

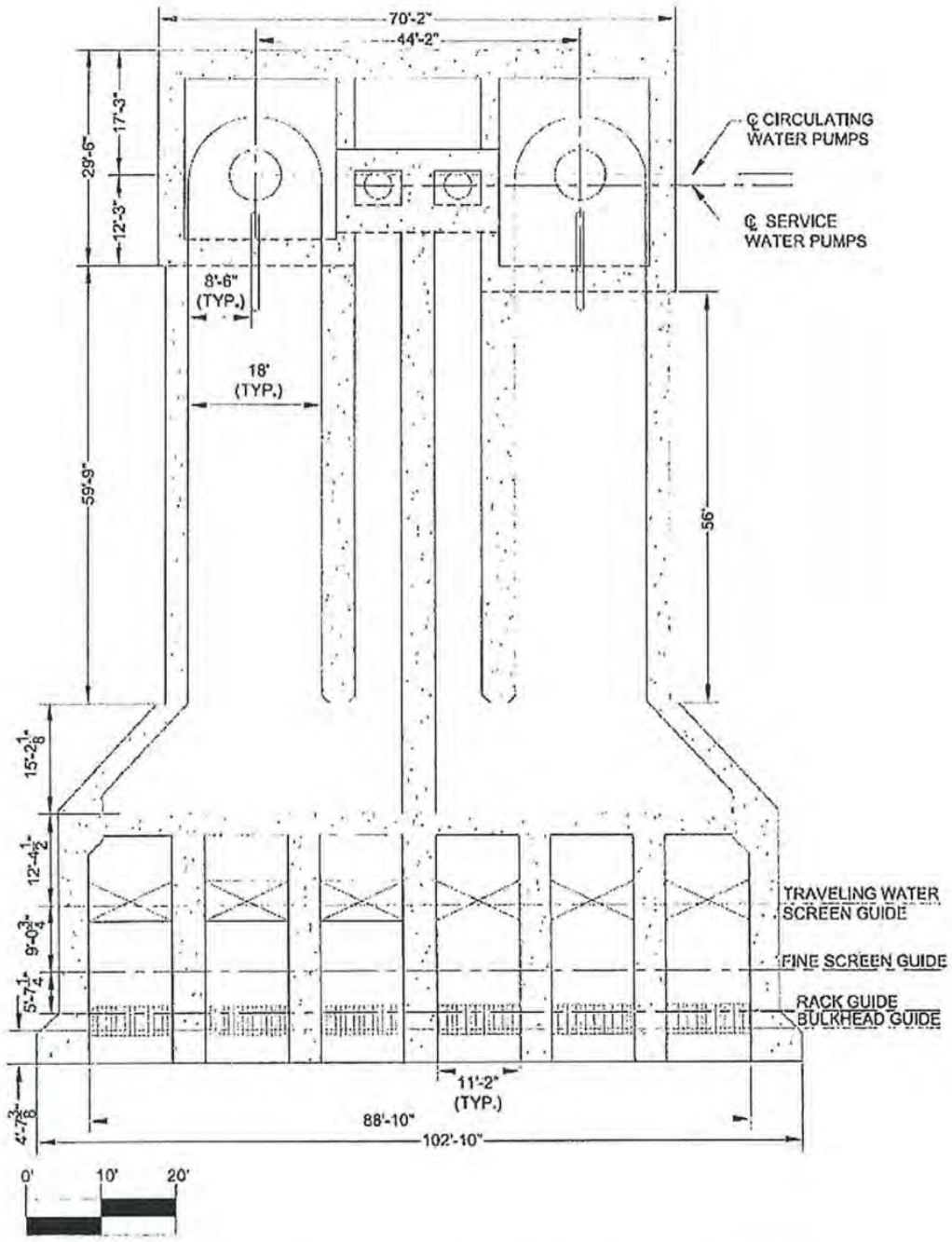


Figure 4 – Ravenswood Generating Station Unit 30 CWIS – Plan

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

Name of Action or Project:
Transfer of certain membership interests from TransCanada Facility USA, Inc. to Helix Generation

Project Location (describe, and attach a location map):
38-54 Vernon Boulevard, Long Island City, NY 11101

Brief Description of Proposed Action:
Petitioners seek approval under Sections 70 and 83 of the New York Public Service Law for the transfer, as applicable, of all of the membership interests in select entities (a steam corporation and an electric corporation) held by TransCanada Facility USA, Inc. to Helix Generation. The Petition also seeks approvals pursuant to Sections 69 and 82 in connection with a proposed financing, and related relief from the Public Service Commission.

There will be no physical changes to the Ravenswood Generating Station as a result of the transfer. The facility will continue to be operated in accordance with all previously issued regulatory permits and approvals.

Name of Applicant or Sponsor:	Telephone: (508) 475-6088
TC Ravenswood, LLC, TC Ravenswood Services Corp., Helix Generation LLC	E-Mail: jim_dandrea@transcanada.com

Address:
110 Turnpike Road, Suite 300

City/PO:	State:	Zip Code:
Westborough	MA	01581

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☑	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval: The parties are also seeking various other approvals related to the transfer, e.g. from FERC and NYSDEC which would update the permits in relation to the transfer of membership interests.	☐	☑

3.a. Total acreage of the site of the proposed action? N/A acres
b. Total acreage to be physically disturbed? N/A acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? Approx. 28 acres

4. Check all land uses that occur on, adjoining and near the proposed action.
☑ Urban ☐ Rural (non-agriculture) ☑ Industrial ☑ Commercial ☑ Residential (suburban)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____
☑ Parkland

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☐	☑
b. Consistent with the adopted comprehensive plan?	☐	☐	☑
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	☐	☑	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify:	☑	☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	☑	☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☐	☑	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☐	☑	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies: N/A	☑	☐	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: No additional connection is required; the facility is already served by public water.	☑	☐	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: No additional connection is required; the facility is already served by public wastewater treatment services.	☑	☐	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	☑	☐	
b. Is the proposed action located in an archeological sensitive area? See Note 1 below.	☐	☑	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	☐	☑	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: The existing site abuts the East River. No changes to operations are proposed and therefore no impacts to wetlands or waterbodies that have not already been reviewed will occur.	☑	☐	
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☑ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☑ Urban ☐ Suburban			
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered? See Note 2 below.	☐	☑	
16. Is the project site located in the 100 year flood plain? There are no operational changes proposed, therefore no impact to the flood plain will occur.	☐	☑	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☐ NO ☐ YES	☑	☐	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☐ NO ☐ YES No new stormwater systems are needed. Existing stormwater conveyance systems will continue to be used, and the existing SPDES permit will be followed.			

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size:	☑	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe:	☑	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: There have been several petroleum spills which were reported to NYSDEC and have been and are being remediated. The Site has also been subject of some Consent Orders, and a VCA for a 2 acre portion of the site which has been completed.	☐	☑

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Jasmin Bertovic Vice President Date: 01/13/17

Signature:

Note 1:

DEC's records indicate that there are archaeological areas at or near the site. However, the specific locations are generally confidential. The applicants are not aware of any archaeological areas on the site or in the vicinity of the facility. Nevertheless, the proposed project does not involve any physical changes, it involves the approval of the transfer of membership interests and associated financing. Therefore no impacts to archaeological areas will occur.

Note 2:

DEC's records indicate that there has been one or more sighting(s) of a threatened or endangered species, however, the records do not indicate which species or when. The applicants are not aware of any endangered species or habitat in the vicinity of the facility. Nevertheless, the proposed project does not involve any physical changes. The proposed project is the approval of the transfer of membership interests and associated financing, therefore no impacts to endangered/threatened species will occur.

PRINT FORM

EXHIBIT 2

NEW YORK STATE OF OPPORTUNITY. **Department of Environmental Conservation**

Application For Permit Transfer and Application for Transfer of Pending Application

NOTE: Please read ALL instructions before completing this application. Please TYPE or PRINT clearly in ink.

PART 1 - TRANSFEREE (New Owner/Operator/Lessee/Applicant) Completes:

1. List Permit Number(s) And Their Effective And Expiration Dates:
2-6304-00024/00035 & 2-6304-00024/00029 (Expires 11/14/17)

List Pending Application Number(s):

2. Name Of Transferee:
Helix Ravenswood, LLC

Telephone Number (Daytime):
(718) 706-2818

Transferee is a/an: (check all that apply)
☑ Owner ☐ Operator
☐ Lessee ☐ Applicant

Mailing Address:
38-54 Vernon Blvd.

Email:

Post Office City, State, Zip Code:
Long Island City, New York 11101

If other than an individual, provide Taxpayer ID Number:
11-3484082

3. Name Of Facility/Project:
Ravenswood Generating Station

Location (or Street Address, P.O. City, State, Zip Code, if applicable):
38-54 Vernon Blvd.

Town / Village / City:
Long Island City, New York 111

County:
Queens

4. Facility Contact Name:
Daniel O'Donnell

Telephone Number (Daytime):
(718) 706-2818

Mailing Address:
38-54 Vernon Blvd.

Email:

Post Office City, State, Zip Code:
Long Island City, New York 11101

5. Has Work Begun On The Project?
Yes ☑ No ☐ If "No," proposed starting date: _____ Approximate completion date: _____

If there will be any modifications to the current or proposed operation or construction, the transferee must attach a statement specifying the details.

6. CERTIFICATION: This certifies that the Transferee seeks to be the legally responsible party for operations or project development either authorized by the permits identified above or proposed in applications identified above. The Transferee has a copy of the permit(s) and/or application(s) and understands and will comply with all conditions in the referenced permit(s) and supports the content of referenced application(s). Facility operations/project scope/discharges/emissions will remain the same as authorized or as proposed in pending applications. Further, I hereby affirm that under penalty of perjury that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Printed Name and Title of Transferee: KATHY FRENCH VICE PRESIDENT ENVIRONMENTAL

Signature of Transferee: Kathy French Date: 7/28/17

PART 2 - TRANSFEROR (Present or Former Owner/Operator/Lessee/Applicant) Completes:

1. Name Of Transferor:
TC Ravenswood LLC

Telephone Number (Daytime):
(718) 706-2818

If other than an individual, provide Taxpayer ID Number: 11-3484082

Mailing Address:
38-54 Vernon Blvd.

Email:

Post Office City, State, Zip Code:
Long Island City, New York 11101

2. Name Of Facility/Project, if different from Facility Name in Part 1:

3. CERTIFICATION: This certifies that ownership, operation, or a lease for the facility identified in Part 1 of this form ☐ will be / ☐ was conveyed to the party identified as the Transferee on _____ (date). I affirm that this conveyance includes the rights and obligations of the permits, approvals, or applications identified above.

Printed Name and Title of Transferor: KATHY FRENCH VICE PRESIDENT ENVIRONMENTAL

Signature of Transferor: Kathy French Date: 7/28/17

PART 3 - PERMIT TRANSFER VALIDATION SECTION - Department Of Environmental Conservation Completes:

FOR DEC USE ONLY

☐ Transfer of permit approved, effective as of _____. Transferee subject to conditions of original permit, without exception.
☐ Transfer of permit approved, with the following modifications or contingencies related to this Permit Transfer:

☐ See attached revised permit page(s): _____
☐ Transfer of application approved. See attached for additional information required.
☐ Transfer denied, new application required. Please complete the enclosed permit application and return it to the undersigned Regional Permit Administrator at the address listed on the reverse side of this form.

NYSDEC PERMIT ADMINISTRATOR _____ SIGNATURE _____ DATE _____

copies to:

FOR DEC USE ONLY

(rev. 8/16)

Application for Permit Transfer and Application for Transfer of Pending Application

General Instructions

This form is to be used for transferring valid permits and pending applications for permit from a present permit holder or applicant (Transferor) to another party taking responsibility as a permittee or applicant (Transferee).

Legally Responsible Party means a permittee lawfully accountable for undertaking a permitted action in accordance with the provisions and conditions of a permit, or an applicant lawfully accountable for the content of an application.

The Transferee (New Owner/Operator/Lessee/Applicant) must:

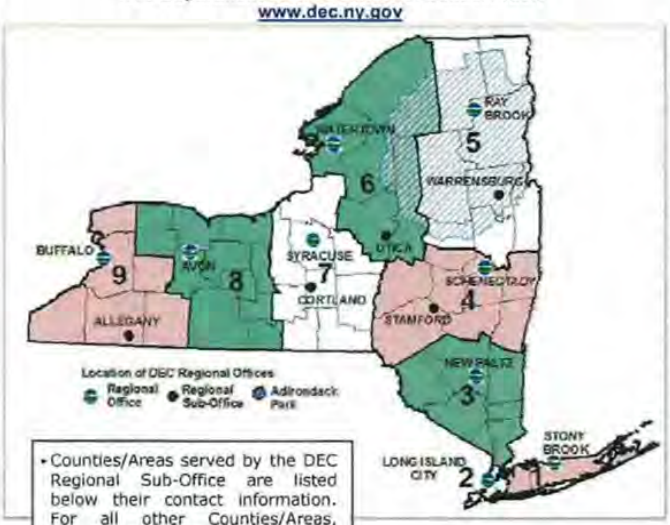
1. Complete Part 1 of this application form.
2. Have Part 2 of this applicant form completed by the Transferor (former Owner/Operator/Lessee/Applicant). If the information requested in Part 2 cannot be obtained, the Transferee must attach a statement giving the reason(s).
3. Submit completed application form to the Regional Permit Administrator, Division of Environmental Permits, at the appropriate office of the department (see map below).

Other Instructions

4. Applications by a Corporation shall be signed by a member of the board of directors or a "high managerial agent" of the corporation as that term is defined in the § 20.20 of the Penal Law; a Partnership by a general partner; a Sole Proprietorship by the proprietor; a Municipality or Public Corporation by the duly authorized principal executive officer; and a State Agency by a person duly designated by the commissioner or other agency head. Applications by a Limited Liability Company shall be signed by a member or manager in accordance with the LLC's articles of organization as filed with the Secretary of State.
5. If other than the owner makes application, written consent of the owner to use the property/facility must accompany the application.
6. The Transferee is responsible for obtaining any other required federal, state or local permits.
7. The department may request additional information in accordance with the Record of Compliance Enforcement Guidance Memorandum, or with regard to financial assurance guaranties.
8. If available, attach a copy of the first page of the permit(s) requested for transfer.

Contact the Regional Permit Administrator, Division of Environmental Permits, at the appropriate office of the department, as given below, for assistance regarding any of the above requirements.

NYS Department of Environmental Conservation
www.dec.ny.gov



- Counties/Areas served by the DEC Regional Sub-Office are listed below their contact information. For all other Counties/Areas, contact the DEC Regional Office.

NYS DEC REGION 1
Regional Permit Administrator
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
631-444-0365 fax: 631-444-0360
email: DEP.R1@dec.ny.gov

NYS DEC REGION 2
Regional Permit Administrator
1 Hunter's Point Plaza
47-40 21st Street
Long Island City, NY 11101-5407
718-482-4997 fax: 718-482-4975
email: DEP.R2@dec.ny.gov

NYS DEC REGION 3
Regional Permit Administrator
21 South Putt Corners Road
New Paltz, NY 12561-1620
845-256-3054 fax: 845-255-4659
email: DEP.R3@dec.ny.gov

NYS DEC REGION 4
Regional Permit Administrator
1130 North Westcott Road
Schenectady, NY 12306-2014
518-357-2069 fax: 518-357-2460
email: DEP.R4@dec.ny.gov

NYS DEC REGION 4 Sub-Office
Regional Permit Administrator
65561 State Highway 10
Stamford, NY 12167-9503
607-652-7741 fax: 607-652-2342
email: DEP.R4@dec.ny.gov
- For Delaware and Otsego Counties

NYS DEC REGION 5
Regional Permit Administrator
PO Box 296
1115 NYS Route 86
Ray Brook, NY 12977-0296
518-897-1234 fax: 518-897-1394
email: DEP.R5@dec.ny.gov

NYS DEC REGION 5 Sub-Office
Regional Permit Administrator
232 Golf Course Rd
Warrensburg, NY 12885-1172
518-623-1282 fax:518-623-3603
email: DEP.R5@dec.ny.gov - For Fulton, Saratoga, Warren, and Washington, Counties

NYS DEC REGION 6
Regional Permit Administrator
Dulles State Office Building
317 Washington Street
Watertown, NY 13601-3787
315-785-2245 fax: 315-785-2242
email: DEP.R6@dec.ny.gov

NYS DEC REGION 6 Sub-Office
Regional Permit Administrator
Utica State Office Building
207 Genesee Street, Room 1404
Utica, NY 13501-2885
315-793-2555 fax: 315-793-2748
email: DEP.R6@dec.ny.gov
- For Herkimer, and Oneida Counties

NYS DEC REGION 7
Regional Permit Administrator
615 Erie Blvd West, Room 206
Syracuse, NY 13204-2400
315-426-7438 fax: 315-426-7425
email: DEP.R7@dec.ny.gov

NYS DEC REGION 7 Sub-Office
Regional Permit Administrator
1285 Fisher Avenue
Cortland, NY 13045-1090
607-753-3095 ext. 233
fax: 607-753-8532
email: DEP.R7@dec.ny.gov
- For Broome, Chenango, Cortland, Madison, Tioga and Tompkins Counties

NYS DEC REGION 8
Regional Permit Administrator
6274 East Avon - Lima Road
Avon, NY 14414-9519
585-226-5400 fax: 585-226-2830
email: DEP.R8@dec.ny.gov

NYS DEC REGION 9
Regional Permit Administrator
270 Michigan Avenue
Buffalo, NY 14203-2915
716-851-7165 fax: 716-851-7168
email: DEP.R9@dec.ny.gov

NYS DEC REGION 9 Sub-Office
Regional Permit Administrator
182 East Union, Suite 3
Allegany, NY 14706-1328
716-372-0645 fax: 716-372-2113
email: DEP.R9@dec.ny.gov
- For Allegany, Cattaraugus, and Chautauqua Counties

New York State Department of Environmental Conservation
Facility DEC ID: 2630400024

PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air Title V Facility
Permit ID: 2-6304-00024/00035
Effective Date: 11/15/2012 Expiration Date: 11/14/2017

Permit Issued To:TC RAVENSWOOD LLC
110 TURNPIKE RD STE 203
WESTBOROUGH, MA 01581

Contact: KEN YAGER
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101
(718) 706-2702

Facility: RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Contact: KEN YAGER
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101
(718) 706-2702

Description:
This facility consists of three (3) steam boiler turbine/generator sets and seventeen (17) simple cycle combustion turbines with a combined nominal rating of 2,288 mw and three (3) emergency generators. Natural gas is the primary fuel for all units, with low-sulfur fuel oil used on a limited basis.

A-341

N. Y. S. DEPARTMENT OF STATE
DIVISION OF CORPORATIONS AND STATE RECORDS ALBANY, NY 12231-0001

FILING RECEIPT

ENTITY NAME: HELIX RAVENSWOOD, LLC

DOCUMENT TYPE: AMENDMENT (DOM LLC) COUNTY: NEWY
NAME

FILED:06/02/2017 DURATION:********* CASH#:170602000575 FILM #:170602000545

FILER:

LEGAL DEPARTMENT
C/O LS POWER DEVELOPMENT, LLC
1 TOWER CENTER BLVD., 21ST FLOOR
EAST BRUNSWICK, NJ 08816

ADDRESS FOR PROCESS:

REGISTERED AGENT:

SERVICE COMPANY: CORPORATION SERVICE COMPANY - 45 SERVICE CODE: 45

FEES	370.00	PAYMENTS	370.00
FILING	60.00	CASH	0.00
TAX	0.00	CHECK	0.00
CERT	0.00	CHARGE	0.00
COPIES	10.00	DRAWDOWN	370.00
HANDLING	300.00	OPAL	0.00
		REFUND	0.00

667828MRO DOS-1025 (04/2007)

A-342

STATE OF NEW YORK

DEPARTMENT OF STATE

I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.

WITNESS my hand and official seal of the Department of State, at the City of Albany, on June 2, 2017.

Brendan Fitzgerald
Executive Deputy Secretary of State

Rev. 09/16

CSC 45
Drawdown

170602000 545

NEW YORK STATE OF OPPORTUNITY. | Division of Corporations, State Records and Uniform Commercial Code

New York State
Department of State
DIVISION OF CORPORATIONS, STATE RECORDS AND UNIFORM COMMERCIAL CODE
One Commerce Plaza
99 Washington Ave.
Albany, NY 12231-0001
www.dos.ny.gov

CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

TC Ravenswood, LLC

(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

FIRST: The name of the limited liability company is:

TC Ravenswood, LLC

If the name of the limited liability company has been changed, the name under which it was organized is:

KEYSPAN-RAVENSWOOD, LLC

SECOND: The date of filing of the articles of organization is: 6/19/02

THIRD: The amendment effected by this certificate of amendment is as follows:

The subject matter and full text of each amended paragraph must be stated.
FOR EXAMPLE, a certificate of amendment changing the name of the limited liability company would read as follows:
Paragraph FIRST of the Articles of Organization relating to the name of the limited liability company is hereby amended to read as follows:
FIRST: The name of the limited liability company is (...new name...).

Paragraph First of the Articles of Organization relating to

The name of the limited liability company

is hereby amended to read as follows:

FIRST: The name of the limited liability company is Helix Ravenswood, LLC.

545

X _____
(Signature)

David J. Sass
(Type or print name)

Capacity of Signer *(Check appropriate box):*

☐ Member

☐ Manager

☒ Authorized Person

CSC 45
Drawdown

2017 JUN -2 PM 1:27

CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

TC Ravenswood, LLC
(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

1CC

STATE OF NEW YORK
DEPARTMENT OF STATE
FILED JUN - 2 2017
TAX $ _____
BY: _____

Filer's Name and Mailing Address:

Legal Department
Name:

c/o LS Power Development, LLC
Company, if Applicable:

1 Tower Center Blvd., 21st Floor
Mailing Address:

East Brunswick, NJ 08816
City, State and Zip Code:

RECEIVED JUN -2 PM 12:52

Cust Ref: 667828MRO

NOTES:

1. The name of the limited liability company and the date of filing of the articles of organization must exactly match the records of the Department of State. This information should be verified on the Department of State's website at www.dos.ny.gov.
2. This form was prepared by the New York State Department of State for filing a certificate of amendment for a domestic limited liability company. It does not contain all optional provisions under the law. You are not required to use this form. You may draft your own form or use forms available at legal supply stores.
3. The Department of State recommends that legal documents be prepared under the guidance of an attorney.
4. The certificate must be submitted with a $60 filing fee made payable to the Department of State.

(For office use only.)

DOS-1358-f (Rev. 03/17)

575

EXHIBIT 3

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

Application For Permit Transfer and Application for Transfer of Pending Application

NOTE: Please read ALL instructions before completing this application. Please TYPE or PRINT clearly in ink.

PART 1 - TRANSFEREE (New Owner/Operator/Lessee/Applicant) Completes:

1. List Permit Number(s) And Their Effective And Expiration Dates: 2-6304-00024/00004 (Expires 10/31/17)

List Pending Application Number(s):

2. Name Of Transferee: Helix Ravenswood, LLC
Telephone Number (Daytime): (718) 706-2818
Email:
Transferee is a/an: (check all that apply) ☑ Owner ☐ Operator ☐ Lessee ☐ Applicant
Mailing Address: 38-54 Vernon Blvd.
Post Office City, State, Zip Code: Long Island City, New York 11101
If other than an individual, provide Taxpayer ID Number: 11-3484082

3. Name Of Facility/Project: Ravenswood Generating Station
Location (or Street Address, P.O. City, State, Zip Code, if applicable): 38-54 Vernon Blvd.
Town / Village / City: Long Island City, New York 111
County: Queens

4. Facility Contact Name: Daniel O'Donnell
Telephone Number (Daytime): (718) 706-2818
Email:
Mailing Address: 38-54 Vernon Blvd.
Post Office City, State, Zip Code: Long Island City, New York 11101

5. Has Work Begun On The Project? Yes ☑ No ☐ If "No," proposed starting date: _____ Approximate completion date: _____
If there will be any modifications to the current or proposed operation or construction, the transferee must attach a statement specifying the details.

6. CERTIFICATION: This certifies that the Transferee seeks to be the legally responsible party for operations or project development either authorized by the permits identified above or proposed in applications identified above. The Transferee has a copy of the permit(s) and/or application(s) and understands and will comply with all conditions in the referenced permit(s) and supports the content of referenced application(s). Facility operations/project scope/discharges/emissions will remain the same as authorized or as proposed in pending applications. Further, I hereby affirm that under penalty of perjury that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Printed Name and Title of Transferee: KATHY FRENCH VICE PRESIDENT ENVIRONMENTAL

Signature of Transferee: Kathy French Date: 7/28/17

PART 2 - TRANSFEROR (Present or Former Owner/Operator/Lessee/Applicant) Completes:

1. Name Of Transferor: TC Ravenswood LLC
Telephone Number (Daytime): (718) 706-2818
Email:
If other than an individual, provide Taxpayer ID Number: 11-3484082
Mailing Address: 38-54 Vernon Blvd.
Post Office City, State, Zip Code: Long Island City, New York 11101

2. Name Of Facility/Project, if different from Facility Name in Part 1:

3. CERTIFICATION: This certifies that ownership, operation, or a lease for the facility identified in Part 1 of this form ☐ will be / ☑ was conveyed to the party identified as the Transferee on June 2, 2017 (date). I affirm that this conveyance includes the rights and obligations of the permits, approvals, or applications identified above.

Printed Name and Title of Transferor: KATHY FRENCH VICE PRESIDENT ENVIRONMENTAL

Signature of Transferor: Kathy French Date: 7/28/17

PART 3 - PERMIT TRANSFER VALIDATION SECTION - Department Of Environmental Conservation Completes:

FOR DEC USE ONLY

☐ Transfer of permit approved, effective as of _____. Transferee subject to conditions of original permit, without exception.
☐ Transfer of permit approved, with the following modifications or contingencies related to this Permit Transfer:

_____

_____

_____

_____

_____

☐ See attached revised permit page(s): _____
☐ Transfer of application approved. See attached for additional information required.
☐ Transfer denied, new application required. Please complete the enclosed permit application and return it to the undersigned Regional Permit Administrator at the address listed on the reverse side of this form.

NYSDEC PERMIT ADMINISTRATOR _____ SIGNATURE _____ DATE _____

copies to:

FOR DEC USE ONLY

(rev. 8/16)

Application for Permit Transfer and Application for Transfer of Pending Application

General Instructions

This form is to be used for transferring valid permits and pending applications for permit from a present permit holder or applicant (Transferor) to another party taking responsibility as a permittee or applicant (Transferee).

Legally Responsible Party means a permittee lawfully accountable for undertaking a permitted action in accordance with the provisions and conditions of a permit, or an applicant lawfully accountable for the content of an application.

The Transferee (New Owner/Operator/Lessee/Applicant) must:

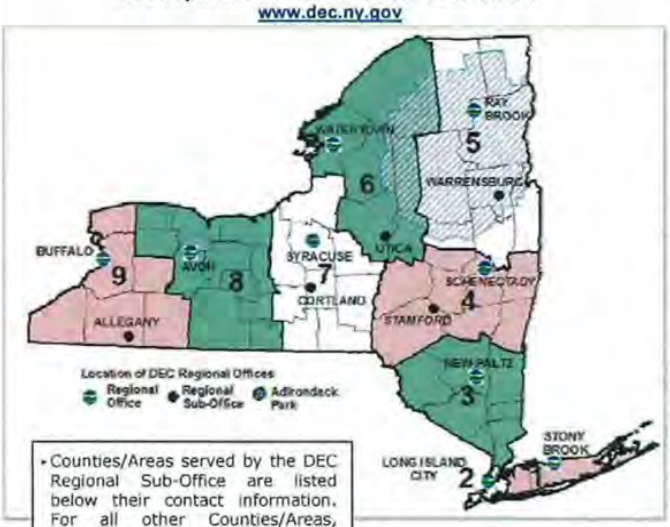
1. Complete Part 1 of this application form.
2. Have Part 2 of this applicant form completed by the Transferor (former Owner/Operator/Lessee/Applicant). If the information requested in Part 2 cannot be obtained, the Transferee must attach a statement giving the reason(s).
3. Submit completed application form to the Regional Permit Administrator, Division of Environmental Permits, at the appropriate office of the department (see map below).

Other Instructions

4. Applications by a Corporation shall be signed by a member of the board of directors or a "high managerial agent" of the corporation as that term is defined in the § 20.20 of the Penal Law; a Partnership by a general partner; a Sole Proprietorship by the proprietor; a Municipality or Public Corporation by the duly authorized principal executive officer; and a State Agency by a person duly designated by the commissioner or other agency head. Applications by a Limited Liability Company shall be signed by a member or manager in accordance with the LLC's articles of organization as filed with the Secretary of State.
5. If other than the owner makes application, written consent of the owner to use the property/facility must accompany the application.
6. The Transferee is responsible for obtaining any other required federal, state or local permits.
7. The department may request additional information in accordance with the Record of Compliance Enforcement Guidance Memorandum, or with regard to financial assurance guaranties.
8. If available, attach a copy of the first page of the permit(s) requested for transfer.

Contact the Regional Permit Administrator, Division of Environmental Permits, at the appropriate office of the department, as given below, for assistance regarding any of the above requirements.

NYS Department of Environmental Conservation
www.dec.ny.gov



▸ Counties/Areas served by the DEC Regional Sub-Office are listed below their contact information. For all other Counties/Areas, contact the DEC Regional Office.

NYS DEC REGION 1
Regional Permit Administrator
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
631-444-0365 fax: 631-444-0360
email: DEP.R1@dec.ny.gov

NYS DEC REGION 2
Regional Permit Administrator
1 Hunter's Point Plaza
47-40 21st Street
Long Island City, NY 11101-5407
718-482-4997 fax: 718-482-4975
email: DEP.R2@dec.ny.gov

NYS DEC REGION 3
Regional Permit Administrator
21 South Putt Corners Road
New Paltz, NY 12561-1620
845-256-3054 fax: 845-255-4659
email: DEP.R3@dec.ny.gov

NYS DEC REGION 4
Regional Permit Administrator
1130 North Westcott Road
Schenectady, NY 12306-2014
518-357-2069 fax: 518-357-2460
email: DEP.R4@dec.ny.gov

NYS DEC REGION 4 Sub-Office
Regional Permit Administrator
65561 State Highway 10
Stamford, NY 12167-9503
607-652-7741 fax: 607-652-2342
email: DEP.R4@dec.ny.gov
▸ For Delaware and Otsego Counties

NYS DEC REGION 5
Regional Permit Administrator
PO Box 296
1115 NYS Route 86
Ray Brook, NY 12977-0296
518-897-1234 fax: 518-897-1394
email: DEP.R5@dec.ny.gov

NYS DEC REGION 5 Sub-Office
Regional Permit Administrator
232 Golf Course Rd
Warrensburg, NY 12885-1172
518-623-1282 fax:518-623-3603
email: DEP.R5@dec.ny.gov ▸ For Fulton, Saratoga, Warren, and Washington, Counties

NYS DEC REGION 6
Regional Permit Administrator
Dulles State Office Building
317 Washington Street
Watertown, NY 13601-3787
315-785-2245 fax: 315-785-2242
email: DEP.R6@dec.ny.gov

NYS DEC REGION 6 Sub-Office
Regional Permit Administrator
Utica State Office Building
207 Genesee Street, Room 1404
Utica, NY 13501-2885
315-793-2555 fax: 315-793-2748
email: DEP.R6@dec.ny.gov
▸ For Herkimer, and Oneida Counties

NYS DEC REGION 7
Regional Permit Administrator
615 Erie Blvd West, Room 206
Syracuse, NY 13204-2400
315-426-7438 fax: 315-426-7425
email: DEP.R7@dec.ny.gov

NYS DEC REGION 7 Sub-Office
Regional Permit Administrator
1285 Fisher Avenue
Cortland, NY 13045-1090
607-753-3095 ext. 233
fax: 607-753-8532
email: DEP.R7@dec.ny.gov
▸ For Broome, Chenango, Cortland, Madison, Tioga and Tompkins Counties

NYS DEC REGION 8
Regional Permit Administrator
6274 East Avon - Lima Road
Avon, NY 14414-9519
585-226-5400 fax: 585-226-2830
email: DEP.R8@dec.ny.gov

NYS DEC REGION 9
Regional Permit Administrator
270 Michigan Avenue
Buffalo, NY 14203-2915
716-851-7165 fax: 716-851-7168
email: DEP.R9@dec.ny.gov

NYS DEC REGION 9 Sub-Office
Regional Permit Administrator
182 East Union, Suite 3
Allegany, NY 14706-1328
716-372-0645 fax: 716-372-2113
email: DEP.R9@dec.ny.gov
▸ For Allegany, Cattaraugus, and Chautauqua Counties

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT

Industrial Code:	4911	SPDES Number:	**NY0005193**
Discharge Class (CL):	03	DEC Number:	**2-6304-00024/00004**
Toxic Class (TX):	T	Effective Date (EDP):	**11/01/2012**
Major Drainage Basin:	17	Expiration Date (ExDP):	**10/31/2017**
Sub Drainage Basin:	02	Modification Dates:(EDPM)	
Water Index Number:	ER (0.3 – 10.1)		
Compact Area:	IEC		

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et.seq.)(hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: TC Ravenswood , LLC Attention: William C. Taylor, Vice President
Street: 110 Turnpike Road, Suite 203
City: Westborough State: MA Zip Code: 01581

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: Ravenswood Generating Station
Location (C,T,V): Long Island City County: Queens
Facility Address: 38-54 Vernon Boulevard
City: Long Island City State: **NY** Zip Code: 11101
NYTM -E: NYTM - N:
From Outfall No.: 001 at Latitude: 40 ° 45 ' 31 " & Longitude: 73 ° 56 ' 54 "
into receiving waters known as: East River Class: I

and; (list other Outfalls, Receiving Waters & Water Classifications)
01A, 01C, 01D, 01E, 01F, 01G, 01H, 004, 006, 007, 008, 009, 010 &011 East River Class I

in accordance with: effluent limitations; monitoring and reporting requirements; other provisions and conditions set forth in this permit; and 6 NYCRR Part 750-1.2(a) and 750-2.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: Ravenswood Generating Station
Street: 38-54 Vernon Blvd.
City: Long Island City State: NY Zip Code: 11101
Responsible Official or Agent: Kenneth A. Yager, Compliance Manager Phone: (718) 706-2702

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

C.O. BWP – Permit Coordinator
BWC
RWE
RPA
EPA Region II - Michelle Josilo
IEC
NYSDOH District Office

Deputy Chief Permit Administrator: Stuart M. Fox	
Address: Division of Environmental Permits 625 Broadway Albany, NY 12233-3505	
Signature:	Date: 10/ 1 / 12

Confidential - Dr Power
Equipment
Staehely, Alex

A-351

N. Y. S. DEPARTMENT OF STATE
DIVISION OF CORPORATIONS AND STATE RECORDS ALBANY, NY 12231-0001

FILING RECEIPT

ENTITY NAME: HELIX RAVENSWOOD, LLC

DOCUMENT TYPE: AMENDMENT (DOM LLC) COUNTY: NEWY
NAME

FILED:06/02/2017 DURATION:********* CASH#:170602000575 FILM #:170602000545

FILER:

LEGAL DEPARTMENT
C/O LS POWER DEVELOPMENT, LLC
1 TOWER CENTER BLVD., 21ST FLOOR
EAST BRUNSWICK, NJ 08816

ADDRESS FOR PROCESS:

REGISTERED AGENT:

SERVICE COMPANY: CORPORATION SERVICE COMPANY - 45 SERVICE CODE: 45

FEES	370.00	PAYMENTS	370.00
FILING	60.00	CASH	0.00
TAX	0.00	CHECK	0.00
CERT	0.00	CHARGE	0.00
COPIES	10.00	DRAWDOWN	370.00
HANDLING	300.00	OPAL	0.00
		REFUND	0.00

667828MRO DOS-1025 (04/2007)

A-352

STATE OF NEW YORK

DEPARTMENT OF STATE

I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.

WITNESS my hand and official seal of the Department of State, at the City of Albany, on June 2, 2017.

Brendan Fitzgerald
Executive Deputy Secretary of State

Rev. 09/16

CSC 45
Drawdown

170602000 545

NEW YORK STATE OF OPPORTUNITY. | Division of Corporations, State Records and Uniform Commercial Code

New York State
Department of State
DIVISION OF CORPORATIONS,
STATE RECORDS AND
UNIFORM COMMERCIAL CODE
One Commerce Plaza
99 Washington Ave.
Albany, NY 12231-0001
www.dos.ny.gov

CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

TC Ravenswood, LLC

(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

FIRST: The name of the limited liability company is:

TC Ravenswood, LLC

If the name of the limited liability company has been changed, the name under which it was organized is:

KEYSPAN-RAVENSWOOD, LLC

SECOND: The date of filing of the articles of organization is: 6/19/02

THIRD: The amendment effected by this certificate of amendment is as follows:

The subject matter and full text of each amended paragraph must be stated.
FOR EXAMPLE, a certificate of amendment changing the name of the limited liability company would read as follows:
Paragraph FIRST of the Articles of Organization relating to the name of the limited liability company is hereby amended to read as follows:
FIRST: The name of the limited liability company is (...new name...).

Paragraph First of the Articles of Organization relating to

The name of the limited liability company

is hereby amended to read as follows:

FIRST: The name of the limited liability company is Helix Ravenswood, LLC.

545

X _____
(Signature)

David J. Sass
(Type or print name)

Capacity of Signer *(Check appropriate box):*

☐ Member

☐ Manager

☒ Authorized Person

CSC 45
Drawdown

2017 JUN -2 PM 1:27

CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

TC Ravenswood, LLC
(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

1CC

STATE OF NEW YORK
DEPARTMENT OF STATE
FILED JUN - 2 2017
TAX $ _____
BY: fe

Filer's Name and Mailing Address:

Legal Department
Name:

c/o LS Power Development, LLC
Company, if Applicable:

1 Tower Center Blvd., 21st Floor
Mailing Address:

East Brunswick, NJ 08816
City, State and Zip Code:

RECEIVED
2017 JUN -2 PM 12:52

Cust Ref: 667828MRO

NOTES:

1. The name of the limited liability company and the date of filing of the articles of organization must exactly match the records of the Department of State. This information should be verified on the Department of State's website at www.dos.ny.gov.
2. This form was prepared by the New York State Department of State for filing a certificate of amendment for a domestic limited liability company. It does not contain all optional provisions under the law. You are not required to use this form. You may draft your own form or use forms available at legal supply stores.
3. The Department of State recommends that legal documents be prepared under the guidance of an attorney.
4. The certificate must be submitted with a **$60** filing fee made payable to the Department of State.

(For office use only.)

fe

575

EXHIBIT 4

NEW YORK STATE OF OPPORTUNITY. **Department of Environmental Conservation**

Application For Permit Transfer and Application for Transfer of Pending Application

NOTE: Please read ALL instructions before completing this application. Please TYPE or PRINT clearly in ink.

PART 1 - TRANSFEREE (New Owner/Operator/Lessee/Applicant) Completes:

1. List Permit Number(s) And Their Effective And Expiration Dates: 2-6304-00024/00039 (Expires 03/26/20)

List Pending Application Number(s):

2. Name Of Transferee: Helix Ravenswood, LLC

Telephone Number (Daytime): (718) 706-2818

Email:

Transferee is a/an: (check all that apply) ☑ Owner ☐ Operator ☐ Lessee ☐ Applicant

Mailing Address: 38-54 Vernon Blvd.

Post Office City, State, Zip Code: Long Island City, New York 11101

If other than an individual, provide Taxpayer ID Number: 11-3484082

3. Name Of Facility/Project: Ravenswood Generating Station

Location (or Street Address, P.O. City, State, Zip Code, if applicable): 38-54 Vernon Blvd.

Town / Village / City: Long Island City, New York 111

County: Queens

4. Facility Contact Name: Daniel O'Donnell

Telephone Number (Daytime): (718) 706-2818

Email:

Mailing Address: 38-54 Vernon Blvd.

Post Office City, State, Zip Code: Long Island City, New York 11101

5. Has Work Begun On The Project?
Yes ☑ No ☐ If "No," proposed starting date: _____ Approximate completion date: _____
If there will be any modifications to the current or proposed operation or construction, the transferee must attach a statement specifying the details.

6. CERTIFICATION: This certifies that the Transferee seeks to be the legally responsible party for operations or project development either authorized by the permits identified above or proposed in applications identified above. The Transferee has a copy of the permit(s) and/or application(s) and understands and will comply with all conditions in the referenced permit(s) and supports the content of referenced application(s). Facility operations/project scope/discharges/emissions will remain the same as authorized or as proposed in pending applications. Further, I hereby affirm that under penalty of perjury that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.

Printed Name and Title of Transferee KATHY FRENCH VICE PRESIDENT ENVIRONMENTAL

Signature of Transferee Kathy French Date 7/28/17

PART 2 - TRANSFEROR (Present or Former Owner/Operator/Lessee/Applicant) Completes:

1. Name Of Transferor: TC Ravenswood LLC

Telephone Number (Daytime): (718) 706-2818

Email:

If other than an individual, provide Taxpayer ID Number: 11-3484082

Mailing Address: 38-54 Vernon Blvd.

Post Office City, State, Zip Code: Long Island City, New York 11101

2. Name Of Facility/Project, if different from Facility Name in Part 1:

3. CERTIFICATION: This certifies that ownership, operation, or a lease for the facility identified in Part 1 of this form ☐ will be / ☑ was conveyed to the party identified as the Transferee on June 2, 2017 (date). I affirm that this conveyance includes the rights and obligations of the permits, approvals, or applications identified above.

Printed Name and Title of Transferor KATHY FRENCH VICE PRESIDENT ENVIRONMENTAL

Signature of Transferor Kathy French Date 7/28/17

PART 3 - PERMIT TRANSFER VALIDATION SECTION - Department Of Environmental Conservation Completes:

FOR DEC USE ONLY

☐ Transfer of permit approved, effective as of _____. Transferee subject to conditions of original permit, without exception.
☐ Transfer of permit approved, with the following modifications or contingencies related to this Permit Transfer:

_____

_____

_____

_____

_____

☐ See attached revised permit page(s): _____
☐ Transfer of application approved. See attached for additional information required.
☐ Transfer denied, new application required. Please complete the enclosed permit application and return it to the undersigned Regional Permit Administrator at the address listed on the reverse side of this form.

NYSDEC PERMIT ADMINISTRATOR _____ SIGNATURE _____ DATE _____

copies to:

FOR DEC USE ONLY

(rev. 8/16)

Application for Permit Transfer and Application for Transfer of Pending Application

General Instructions

This form is to be used for transferring valid permits and pending applications for permit from a present permit holder or applicant (Transferor) to another party taking responsibility as a permittee or applicant (Transferee).

Legally Responsible Party means a permittee lawfully accountable for undertaking a permitted action in accordance with the provisions and conditions of a permit, or an applicant lawfully accountable for the content of an application.

The Transferee (New Owner/Operator/Lessee/Applicant) must:

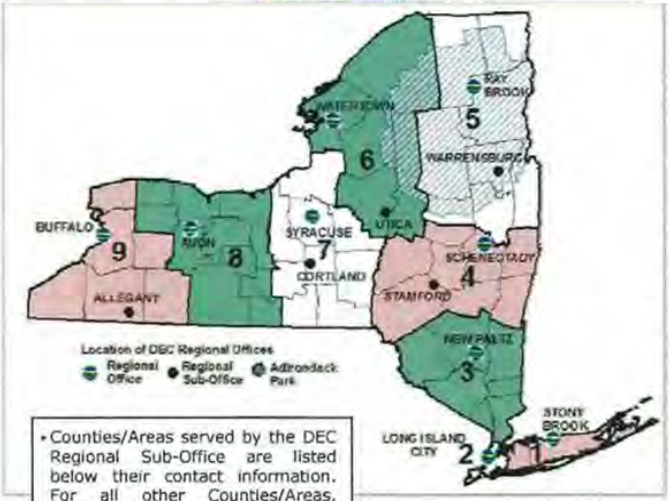
1. Complete Part 1 of this application form.
2. Have Part 2 of this applicant form completed by the Transferor (former Owner/Operator/Lessee/Applicant). If the information requested in Part 2 cannot be obtained, the Transferee must attach a statement giving the reason(s).
3. Submit completed application form to the Regional Permit Administrator, Division of Environmental Permits, at the appropriate office of the department (see map below).

Other Instructions

4. Applications by a Corporation shall be signed by a member of the board of directors or a "high managerial agent" of the corporation as that term is defined in the § 20.20 of the Penal Law; a Partnership by a general partner; a Sole Proprietorship by the proprietor; a Municipality or Public Corporation by the duly authorized principal executive officer; and a State Agency by a person duly designated by the commissioner or other agency head. Applications by a Limited Liability Company shall be signed by a member or manager in accordance with the LLC's articles of organization as filed with the Secretary of State.
5. If other than the owner makes application, written consent of the owner to use the property/facility must accompany the application.
6. The Transferee is responsible for obtaining any other required federal, state or local permits.
7. The department may request additional information in accordance with the Record of Compliance Enforcement Guidance Memorandum, or with regard to financial assurance guaranties.
8. If available, attach a copy of the first page of the permit(s) requested for transfer.

Contact the Regional Permit Administrator, Division of Environmental Permits, at the appropriate office of the department, as given below, for assistance regarding any of the above requirements.

NYS Department of Environmental Conservation
www.dec.ny.gov



- Counties/Areas served by the DEC Regional Sub-Office are listed below their contact information. For all other Counties/Areas, contact the DEC Regional Office.

NYS DEC REGION 1
Regional Permit Administrator
SUNY @ Stony Brook
50 Circle Road
Stony Brook, NY 11790-3409
631-444-0365 fax: 631-444-0360
email: DEP.R1@dec.ny.gov

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Regional Permit Administrator
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47-40 21st Street
Long Island City, NY 11101-5407
718-482-4997 fax: 718-482-4975
email: DEP.R2@dec.ny.gov

NYS DEC REGION 3
Regional Permit Administrator
21 South Putt Corners Road
New Paltz, NY 12561-1620
845-256-3054 fax: 845-255-4659
email: DEP.R3@dec.ny.gov

NYS DEC REGION 4
Regional Permit Administrator
1130 North Westcott Road
Schenectady, NY 12306-2014
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email: DEP.R4@dec.ny.gov

NYS DEC REGION 4 Sub-Office
Regional Permit Administrator
65561 State Highway 10
Stamford, NY 12167-9503
607-652-7741 fax: 607-652-2342
email: DEP.R4@dec.ny.gov
- For Delaware and Otsego Counties

NYS DEC REGION 5
Regional Permit Administrator
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Ray Brook, NY 12977-0296
518-897-1234 fax: 518-897-1394
email: DEP.R5@dec.ny.gov

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Regional Permit Administrator
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Warrensburg, NY 12885-1172
518-623-1282 fax:518-623-3603
email: DEP.R5@dec.ny.gov - For Fulton, Saratoga, Warren, and Washington, Counties

NYS DEC REGION 6
Regional Permit Administrator
Dulles State Office Building
317 Washington Street
Watertown, NY 13601-3787
315-785-2245 fax: 315-785-2242
email: DEP.R6@dec.ny.gov

NYS DEC REGION 6 Sub-Office
Regional Permit Administrator
Utica State Office Building
207 Genesee Street, Room 1404
Utica, NY 13501-2885
315-793-2555 fax: 315-793-2748
email: DEP.R6@dec.ny.gov
- For Herkimer, and Oneida Counties

NYS DEC REGION 7
Regional Permit Administrator
615 Erie Blvd West, Room 206
Syracuse, NY 13204-2400
315-426-7438 fax: 315-426-7425
email: DEP.R7@dec.ny.gov

NYS DEC REGION 7 Sub-Office
Regional Permit Administrator
1285 Fisher Avenue
Cortland, NY 13045-1090
607-753-3095 ext. 233
fax: 607-753-8532
email: DEP.R7@dec.ny.gov
- For Broome, Chenango, Cortland, Madison, Tioga and Tompkins Counties

NYS DEC REGION 8
Regional Permit Administrator
6274 East Avon - Lima Road
Avon, NY 14414-9519
585-226-5400 fax: 585-226-2830
email: DEP.R8@dec.ny.gov

NYS DEC REGION 9
Regional Permit Administrator
270 Michigan Avenue
Buffalo, NY 14203-2915
716-851-7165 fax: 716-851-7168
email: DEP.R9@dec.ny.gov

NYS DEC REGION 9 Sub-Office
Regional Permit Administrator
182 East Union, Suite 3
Allegany, NY 14706-1328
716-372-0645 fax: 716-372-2113
email: DEP.R9@dec.ny.gov
- For Allegany, Cattaraugus, and Chautauqua Counties

New York State Department of Environmental Conservation
Facility DEC ID: 2630400024

PERMIT
Under the Environmental Conservation Law (ECL)

IDENTIFICATION INFORMATION

Permit Type: Air Title V Facility
Permit ID: 2-6304-00024/00039
Effective Date: 03/27/2015 Expiration Date: 03/26/2020

Permit Issued To:TC RAVENSWOOD LLC
110 TURNPIKE RD STE 203
WESTBOROUGH, MA 01581

Contact: DANIEL O'DONNELL
TRANSCANADA
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101
(718) 706-2818

Facility: RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Contact: DANIEL O'DONNELL
TRANSCANADA
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101
(718) 706-2818

Description:
The facility consists of one GE 7FA combustion turbine, one heat recovery steam generator (HRSG) equipped with a duct burner for supplemental firing and one steam turbine. The turbine fires natural gas with up to 30 days of distillate oil, the duct burner only fires natural gas. The plant has a nominal generating capacity of approximately 250 megawatts.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator: JOHN F CRYAN
NYSDEC - REGION 2
47-40 21ST ST
LONG ISLAND CITY, NY 11101-5407

Authorized Signature: _____ Date: 03/27/2015

Confidential - LS Power Equity Partners, Alex Raeheny,

A-361

N. Y. S. DEPARTMENT OF STATE
DIVISION OF CORPORATIONS AND STATE RECORDS ALBANY, NY 12231-0001

FILING RECEIPT

ENTITY NAME: HELIX RAVENSWOOD, LLC

DOCUMENT TYPE: AMENDMENT (DOM LLC) COUNTY: NEWY
NAME

FILED:06/02/2017 DURATION:********* CASH#:170602000575 FILM #:170602000545

FILER:

LEGAL DEPARTMENT
C/O LS POWER DEVELOPMENT, LLC
1 TOWER CENTER BLVD., 21ST FLOOR
EAST BRUNSWICK, NJ 08816

ADDRESS FOR PROCESS:

REGISTERED AGENT:

SERVICE COMPANY: CORPORATION SERVICE COMPANY - 45 SERVICE CODE: 45

FEES	370.00	PAYMENTS	370.00
FILING	60.00	CASH	0.00
TAX	0.00	CHECK	0.00
CERT	0.00	CHARGE	0.00
COPIES	10.00	DRAWDOWN	370.00
HANDLING	300.00	OPAL	0.00
		REFUND	0.00

667828MRO DOS-1025 (04/2007)

A-362

STATE OF NEW YORK

DEPARTMENT OF STATE

I hereby certify that the annexed copy has been compared with the original document in the custody of the Secretary of State and that the same is a true copy of said original.

WITNESS my hand and official seal of the Department of State, at the City of Albany, on June 2, 2017.

Brendan Fitzgerald
Executive Deputy Secretary of State

Rev. 09/16

CSC 45
Drawdown

170602000 545

NEW YORK STATE OF OPPORTUNITY. | Division of Corporations, State Records and Uniform Commercial Code

New York State
Department of State
DIVISION OF CORPORATIONS, STATE RECORDS AND UNIFORM COMMERCIAL CODE
One Commerce Plaza
99 Washington Ave.
Albany, NY 12231-0001
www.dos.ny.gov

CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

TC Ravenswood, LLC

(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

FIRST: The name of the limited liability company is:

TC Ravenswood, LLC

If the name of the limited liability company has been changed, the name under which it was organized is:

KEYSPAN-RAVENSWOOD, LLC

SECOND: The date of filing of the articles of organization is: 6/19/02

THIRD: The amendment effected by this certificate of amendment is as follows:

The subject matter and full text of each amended paragraph must be stated.
FOR EXAMPLE, a certificate of amendment changing the name of the limited liability company would read as follows:
Paragraph FIRST of the Articles of Organization relating to the name of the limited liability company is hereby amended to read as follows:
FIRST: The name of the limited liability company is (...new name...).

Paragraph First of the Articles of Organization relating to
The name of the limited liability company

is hereby amended to read as follows:

FIRST: The name of the limited liability company is Helix Ravenswood, LLC.

545

X _____
(Signature)

David J. Sass
(Type or print name)

Capacity of Signer *(Check appropriate box):*

☐ Member

☐ Manager

☒ Authorized Person

CSC 45
Drawdown

2017 JUN -2 PM 1:27

CERTIFICATE OF AMENDMENT OF ARTICLES OF ORGANIZATION OF

TC Ravenswood, LLC
(Insert Name of Domestic Limited Liability Company)

Under Section 211 of the Limited Liability Company Law

1CC

STATE OF NEW YORK
DEPARTMENT OF STATE
FILED JUN - 2 2017
TAX $ _____
BY: JCe

Filer's Name and Mailing Address:

Legal Department
Name:
c/o LS Power Development, LLC
Company, if Applicable:
1 Tower Center Blvd., 21st Floor
Mailing Address:
East Brunswick, NJ 08816
City, State and Zip Code:

RECEIVED JUN -2 PM 12:52

CUST Ref: 667828MRU

NOTES:

1. The name of the limited liability company and the date of filing of the articles of organization must exactly match the records of the Department of State. This information should be verified on the Department of State's website at www.dos.ny.gov.
2. This form was prepared by the New York State Department of State for filing a certificate of amendment for a domestic limited liability company. It does not contain all optional provisions under the law. You are not required to use this form. You may draft your own form or use forms available at legal supply stores.
3. The Department of State recommends that legal documents be prepared under the guidance of an attorney.
4. The certificate must be submitted with a **$60** filing fee made payable to the Department of State.

(For office use only.)

JCe

575

A-365

DEC NOTICE OF RECEIPT OF APPLICATION, DATED AUGUST 3, 2017

(fold #2)

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL PERMITS
NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City NY 11101

TANJA GRZESKOWITZ
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101

(fold #1) -- staple here

NOTICE OF RECEIPT OF APPLICATION

The Division of Environmental Permits has received the application referenced below. The material submitted is being reviewed by staff, and you will be advised in writing regarding the department's findings. In all future communications, please refer to the Application ID number.

Application ID: 2-6304-00024/00054
Date Received: August 03, 2017
Applicant: HELIX RAVENSWOOD LLC
Facility: RAVENSWOOD GENERATING STATION
Description: REN1 and LRP Name Change to HELIX RAVENSWOOD LLC WWA #11,660
DEC Contact: ERIN L SHIRKEY

A-366

EMAIL FROM DEC TO RAVENSWOOD ATTACHING NOTICE OF RECEIPT OF APPLICATION, DATED AUGUST 31, 2017

Shirkey, Erin L (DEC)

From:	Shirkey, Erin L (DEC)
Sent:	Thursday, August 31, 2017 11:20 AM
To:	'Grzeskowitz, Tanja (EthosEnergy)'; 'ODonnell, Daniel (EthosEnergy)'
Cc:	'Madeline Goralski'; 'Alita Giuda'; Watts, Stephen (DEC)
Subject:	NOTICE OF RECEIPT OF APPLICATION, WWA #11,660 REN1, ID: 2-6304-00024/00054 RAVENSWOOD GENERATING STATION
Attachments:	2017-08-03.RECEIPT.WWA11660.2-6304-0002400054.RAVENSWOODGS.pdf

Application ID: 2-6304-00024/00054 - Article 15 Title 15 Water Withdrawal Non-public
Date Received: August 03, 2017
Applicant: HELIX RAVENSWOOD LLC
Facility: RAVENSWOOD GENERATING STATION
Description: REN1 and LRP Name Change to HELIX RAVENSWOOD LLC WWA #11,660
DEC Contact: ERIN L SHIRKEY

Please see the attached NOTICE OF RECEIPT OF APPLICATION.

Thanks, Erin

Erin L. Shirkey, M. Eng, ENV SP
Environmental Analyst II, Division of Environmental Permits
New York State Department of Environmental Conservation
Region 2 New York City, 1 Hunter's Point Plaza, 47-40 21st Street
Long Island City, NY 11101-5407
P: 718-482-4972 | F: 718-482-4975| erin.shirkey@dec.ny.gov
www.dec.ny.gov | | |

A-367

DEC LETTER NOTIFYING RAVENSWOOD OF MODIFICATION OF WATER WITHDRAWAL PERMIT WITH SIGNED PERMIT, DATED SEPTEMBER 29, 2017 [A-367 - A-371]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 2
47-40 21st Street, Long Island City, NY 11101
P: (718) 482-4997 | F: (718) 482-4975
www.dec.ny.gov

September 29, 2017

Daniel O'Donnell
Compliance Manager
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101

Re: NYSDEC Permit #2-6304-00024/00054, WWA#11,660
Facility: RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101
ECL Article 15, Title 15- Part 601 Water Withdrawal Permit
NOTICE OF PERMIT MODIFICATION

Dear Mr. O'Donnell:

Enclosed is your Part 601 Water Withdrawal Permit. It is effective beginning September 29, 2017 and expires on October 31, 2017.

The permit referenced above is hereby modified to update the facility permit owner name from TC RAVENSWOOD LLC to HELIX RAVENSWOOD LLC.

Please read all permit conditions carefully. All permit documents must be available upon request by the Department staff and must be distributed to and understood by personnel responsible for the proper operation of the facility and compliance with the discharge limits. Any violation of these permit conditions constitutes a violation of the Environmental Conservation Law.

Please note that the maximum withdrawal rate authorized by this permit is 1,527,840,000 gallons per day.

If you have any other questions regarding this permit, you may contact the Division of Environmental Permits at the above address. Please refer to the above referenced numbers when you are corresponding with this office or when you are applying to renew or modify this permit.

Sincerely,

Stephen A. Watts III
Regional Permit Administrator
Division of Environmental Permits

ecc: NYSDEC RWE, R. Elburn
NYSDEC DOW, S. Southwell, E. Rossan, A. Rahman
DOW CO, E. Schmitt
File

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 2-6304-00024

PERMIT

Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
HELIX RAVENSWOOD LLC
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101
(718) 706-2818

Facility:
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Facility Location: in QUEENS COUNTY
Facility Principal Reference Point: NYTM-E: 588.961 NYTM-N: 4512.613
Latitude: 40°45'34.8" Longitude: 73°56'45.8"
Project Location: 38-54 VERNON BLVD, QUEENS, NY 11101
Authorized Activity: This permit authorizes the withdrawal of a supply of water up to 1,527,840,000 gallons per day (GPD) from the East River for once through cooling and other processes related to electrical generation.

Permit Authorizations

Water Withdrawal Non-public - Under Article 15, Title 15
Permit ID 2-6304-00024/00054

New Permit	Effective Date: 11/15/2013	Expiration Date: 10/31/2017
Modification # 1	Effective Date: 3/7/2014	Expiration Date: 10/31/2017
Modification # 2	Effective Date: 9/29/2017	Expiration Date: 10/31/2017

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: STEPHEN A WATTS, Regional Permit Administrator
Address: NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City, NY 11101 -5401

Authorized Signature: _____ Date 09/29/2017

Permit Components

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

1. **Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.

2. **Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.

3. **Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.

4. **Cooling Water Withdrawals Regulated by SPDES** Nothing in this water withdrawal permit shall supercede the need to, where necessary, obtain an appropriate SPDES permit that allows for the operation of a cooling water intake structure and the discharge of the amounts of water approved by this water withdrawal permit. If any modifications to the location, or capacity of the intake structure are required by the permittee's SPDES permit, permittee must also apply for a modification of this water withdrawal permit to reflect such changes.

5. **Incorporation of the SPDES Water Conservation and Fisheries Protection Measures** Required measures for water conservation and the reduction of impacts to the fisheries resource contained in the Biological Monitoring Requirement Section of the facilities SPDES permit # NY0005193 are hereby incorporated by reference into this permit.

6. **Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY. by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.

7. **Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.

8. **Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Regional Permit Administrator
NYSDEC Region 2 Headquarters
47-40 21st St
Long Island City, NY11101 -5401

4. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

A-372

LETTER FROM DEC TO RAVENSWOOD REGARDING ANNULLED WATER WITHDRAWAL PERMIT DUE TO RECENT LITIGATION, DATED APRIL 13, 2018 [A-372 - A-373]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits
625 Broadway, 4th Floor, Albany, New York 12233-1750
P: (518) 402-9167 I F: (518) 402-9168 I deppermitting@dec.ny.gov
www.dec.ny.gov

April 13, 2018

Tanja Grzeskowitz
Helix Generation LLC
38-54 Vernon Blvd.
Long Island City, NY 11101

Re: Notice of Incomplete Application for a Water Withdrawal Permit
Ravenswood Generating Station, DEC ID# 2-6304-00024/00054
Queens, Queens County

Dear Ms. Grzeskowitz,

Due to the outcome of recent litigation, the water withdrawal permit issued for the Ravenswood Generating Station on November 15, 2013 has been annulled and remitted back to the department for further action on the application in accordance with SEQR.

The Department is using information presented in the initial water withdrawal permit application dated May 31, 2013 as well as the information presented in the permit renewal application dated August 2, 2017 as the basis for our review. Because the facility has the capacity to withdraw 1,527.84 million gallons per day of water, the project must be considered a Type 1 action under the State Environmental Quality Review Act.

The Department has determined that the following information is necessary:

1. A completed and signed Part 1 of a Full Environmental Assessment Form. The form is available at http://www.dec.ny.gov/permits/6191.html. Please note that the Department has received a Short Environmental Assessment Form dated January 13, 2017 for the action of transfer to Helix Generation LLC. The Full Environmental Assessment Form must describe the water withdrawal activity at the facility.
2. A letter signed by the owner or owner's representative indicating what, if any, changes to the water withdrawal system have been made since August 2, 2017.

Please mail three paper copies of this information by April 27, 2018 to me at the address indicated in the letterhead above.

If you have any questions or concerns, please contact me at (518) 402-9178 or at Kent.Sanders@dec.ny.gov.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sincerely,

Kent Sanders
Deputy Chief Permit Administrator

ec: S. Watts, NYSDEC Region 2 Regional Permit Administrator
C. Conyers, NYSDEC Office of General Counsel
D. English, NYSDEC Division of Water

A-374

EMAIL FROM RAVENSWOOD TO DEC ACCOMPANYING COMPLETED PART 1 OF A FULL ENVIRONMENTAL ASSESSMENT FORM, DATED MAY 4, 2018

Sanders, Kent P (DEC)

From:	Grzeskowitz, Tanja (EthosEnergy) <tanja.grzeskowitz@ethosenergygroup.com>
Sent:	Friday, May 04, 2018 2:57 PM
To:	Sanders, Kent P (DEC)
Cc:	Seth, Rudger (EthosEnergy); 'kfrench@lspower.com'; Barnard, Kevin (EthosEnergy)
Subject:	SEQRA Long Form and Letter
Attachments:	RAV_SEQRA submittal.pdf

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Mr. Sanders,

As requested in your letter, date April 23, 2018, we have completed and signed Part 1 of a Full Environmental Assessment Form. A hard copy will be mailed today.

There have been no changes to the facility's water withdrawal system since August 2, 2017.

If you have any questions or need any additional information, please do not hesitate to reach out to me.

Sincerely,

Tanja Grzeskowitz
Compliance Manager
Helix Ravenswood, LLC
38-54 Vernon Blvd
Long Island City, NY 11101
Tel.:718.706.2705
Cell:347.696.5088
tanja.grzeskowitz@ethosenergygroup.com

RAVENSWOOD GENERATING STATION

Operated by

EthosEnergy

---------- This email is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The company does not accept responsibility for changes made to this message after it was sent. While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate. This email has been scanned for Virus and Spam content by EthosEnergy.

COMPLETED PART 1 OF FULL ENVIRONMENTAL ASSESSMENT FORM, DATED MAY 4, 2018 [A-375 - A-392]

RAVENSWOOD GENERATING STATION

Ravenswood Generating Station
38-54 Vernon Blvd.
Long Island City, NY 11101

May 4, 2018

Kent Sanders
Deputy Chief Permit Administrator
NYSDEC Headquarters
625 Broadway, 4th Floor
Albany, NY 12233-1750

Re: Ravenswood Generating Station
SEQR to Water Withdrawal Permit # 2-6304-00024/00054

Dear Mr. Sanders,

The Ravenswood Generating Station ("Ravenswood") is a longstanding electric generating facility. Ravenswood has played a significant role by supplying New York City's energy needs within a constantly growing New York City market for decades. The original design of the facility included boilers, steam-turbines, generators and auxiliary electrical equipment. Multiple surface water intake withdrawals were incorporated into the design to supply noncontact cooling water to condensers, heat exchangers and other facility needs. As per the requirements of the facility's Water Withdrawal Permit, annual water withdrawal reports have been filed annually. Ravenswood staff examines numbers used for water withdrawal calculations to ensure complete and transparent reporting is performed. In the reporting year 2017, the facility's maximum withdrawal rate was 1,358 million gallons per day (MGD); the facility's maximum permitted withdrawal rate is 1,527.84 MGD. The daily average withdrawal for 2017 was 371 MGD.

Ravenswood's water withdrawal design utilizes a once through cooling water intake system to condense low pressure steam exhausted from the low pressure turbine. Two circulating water pumps per unit are used inject surface water from the East River into steam surface condensers. Also included in the design is the low pressure salt water system which provides cooling water to various heat exchangers for auxiliary systems. The high pressure salt water system takes suction from the low pressure saltwater system and is accounted for in the low pressure systems withdrawal.

While the water withdrawal equipment utilized at the plant was included in the original design and has been used since its inception, Ravenswood has been working collaboratively with the NYSDEC continuously to install equipment to reduce its water withdrawal and overall environmental impact. The installation of variable speed drives on the circulating water pumps has, on average, reduced surface water withdrawal from the East River by approximately 142 MGD. The water withdrawal reductions from the installation of variable speed pumps allows Ravenswood to operate without exceeding its

current permitted withdrawal during normal day-to-day operation. As of August 2nd 2017, no changes or modifications have been made to the water withdrawal system at Ravenswood.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Tanja Grzeskowitz
Compliance Manager
Tel. 718-706-2705
e-mail:tanja.grzeskowitz@ethosenergygroup.com

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Application for Water Withdrawal Permit (DEC ID# 2-6304-00024-00054)		
Project Location (describe, and attach a general location map): Ravenswood cooling water intakes; located on the shoreline of the East River. North of the Queensboro Bridge and south of the Roosevelt Island Bridge		
Brief Description of Proposed Action (include purpose or need): The Ravenswood Generating Station (RGS), an electric generating facility consisting of three (3) conventional boilers (Units 10/20/30), a combined cycle unit (Unit 40), and three (3) operational simple cycle units (GT1, GT10, GT11), is located in Long Island City, New York and is situated along the bank of the upper East River, across from Roosevelt Island. The existing water withdrawal system was commissioned in 1963 and is used to supply once through cooling water for Units 10, 20 and 30. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condenser to condense exhausted steam from the low pressure turbine. Water withdrawn is return to the East River via SPDES permit NY 0005193. The facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. Supplemental technology includes Variable Speed Pumps (VSP) and Vacuum Priming Systems (VPS) on the Cooling Water Intake Structures (CWIS). This technology is used to reduce impingement and entrainment of aquatic organisms by incremental reductions in cooling water intake flows by operating the circulating water pumps at less than full capacity. For 2017-2018, the daily average water withdrawal from the East River was 371 million gallons per day (MGD) and the maximum day withdrawal was 1358 MGD. As of August 2, 2017, there have been no modifications or changes to the water withdrawal system.		
Name of Applicant/Sponsor: Helix Ravenswood, LLC	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Project Contact (if not same as sponsor; give name and title/role): Tanja Grzeskowitz - Compliance Manager	Telephone: E-Mail:	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Property Owner (if not same as sponsor):	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Council, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☐Yes☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☐Yes☑No		
e. County agencies ☐Yes☑No		
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	New York State Department of Environmental Conservation	
h. Federal agencies ☐Yes☑No		
i. Coastal Resources. *i.* Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes☐No *ii.* Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes☐No *iii.* Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No		

C. Planning and Zoning

C.1. Planning and zoning actions.	
Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? • **If Yes,** complete sections C, F and G. • **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1	☑Yes☐No
C.2. Adopted land use plans.	
a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located?	☐Yes☑No
If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?	☐Yes☐No
b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) If Yes, identify the plan(s): Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park	☑Yes☐No
c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? If Yes, identify the plan(s):	☐Yes☑No

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☐ Yes ☑ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Queens, District 30

b. What police or other public protection forces serve the project site?
NYPD, US Coast Guard

c. Which fire protection and emergency medical services serve the project site?
FDNY

d. What parks serve the project site?

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial, Commercial

b. a. Total acreage of the site of the proposed action? 0 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 26 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: N/A months
ii. If Yes:
- Total number of phases anticipated _____
- Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
- Anticipated completion date of final phase _____ month _____ year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures _____
ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length
iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: _____
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify:
_____
iii. If other than water, identify the type of impounded/contained liquids and their source.
_____
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i. What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
_____
_____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____
_____
v. What is the total area to be dredged or excavated? _____ acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: _____
_____
_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____
_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐Yes☐No

If Yes, describe: _____

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes☐No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____

_____

- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐Yes☑No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐Yes☐No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐Yes☐No
- Is the project site in the existing district? ☐Yes☐No
- Is expansion of the district needed? ☐Yes☐No
- Do existing lines serve the project site? ☐Yes☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes☐No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐Yes☑No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes☐No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes☐No
- Is the project site in the existing district? ☐Yes☐No
- Is expansion of the district needed? ☐Yes☐No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐Morning ☐Evening ☐Weekend ☐Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: n/a
- Saturday: n/a
- Sunday: n/a
- Holidays: n/a

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: 24 hours

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No

Describe:

n.. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☐ No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction:
- Operation:

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction:
- Operation:

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☑ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	26	26	0
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No
If Yes,
i. Identify Facilities:

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☐ No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☑Yes ☐No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
The site produces non-acute hazardous waste under a "Small Quantity Generator" status. Waste is contained in a hazardous waste storage area, inventoried weekly, sampled and tested for hazardous materials which are shipped off site to a treatment facility in compliance with RCRA regulations.

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑Yes ☐ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑Yes ☐No
☑ Yes – Spills Incidents database — Provide DEC ID number(s): 1510992,110822,905194,912294,100852
☑ Yes – Environmental Site Remediation database — Provide DEC ID number(s): V00368 , 241119
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑Yes ☐No
If yes, provide DEC ID number(s): C241109, C241086, C241101, C241100, C241099, V0...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

DEC ID# V00368 (Voluntary Cleanup Program) is satisfactorily closed.
DEC ID# 241119 remains with classification "P"
DEC ID# C241109, C241086, C241101, C241100, C241099 are not associated with Ravenswood Generating Station

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number:
- Describe the type of institutional control (e.g., deed restriction or easement):
- Describe any use limitations:
- Describe any engineering controls:
- Will the project affect the institutional or engineering controls in place? ☐Yes ☑No
- Explain:

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 25 feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? %

c. Predominant soil type(s) present on project site:

Silt loam	N/A %
loamy sand	N/A %
fine sandy loam	N/A %

d. What is the average depth to the water table on the project site? Average: 7-10 feet

e. Drainage status of project site soils:

☐ Well Drained:	N/A % of site
☐ Moderately Well Drained:	N/A % of site
☐ Poorly Drained	N/A % of site

f. Approximate proportion of proposed action site with slopes:

☐ 0-10%:	N/A % of site
☐ 10-15%:	N/A % of site
☐ 15% or greater:	N/A % of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe:

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑Yes ☐No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑Yes ☐No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑Yes ☐No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name Classification
- Lakes or Ponds: Name Classification
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters Approximate Size
- Wetland No. (if regulated by DEC) East River Watershed (0203010201)

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑Yes ☐No

If yes, name of impaired water body/bodies and basis for listing as impaired:
Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recreation;Fish Consumption;Aqua...

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100 year Floodplain? ☑Yes ☐No

k. Is the project site in the 500 year Floodplain? ☑Yes ☐No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑Yes ☐No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Brooklyn-Queens SSA

m. Identify the predominant wildlife species that occupy or use the project site: _____

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No

Peregrine Falcon

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name Helix Ruckenstein LLC Date 5/4/18

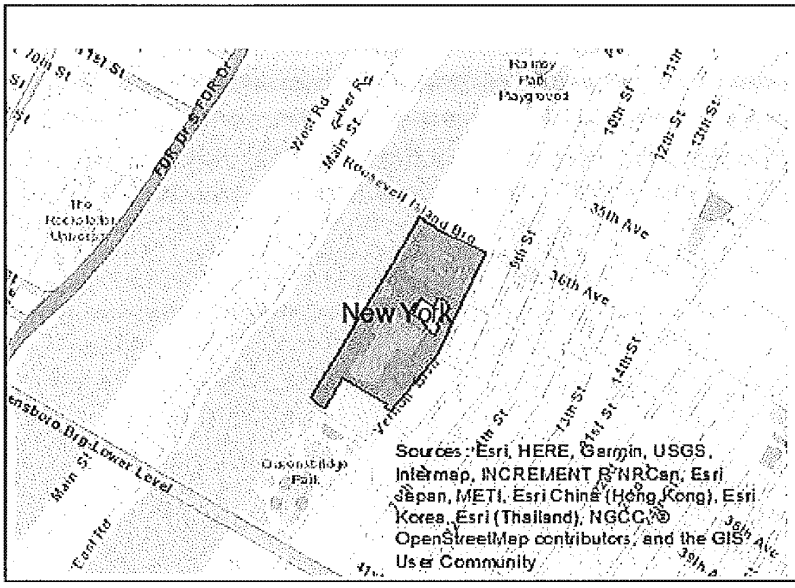
Tanja Ruckenstein

Signature _____ Title Compliance Manager

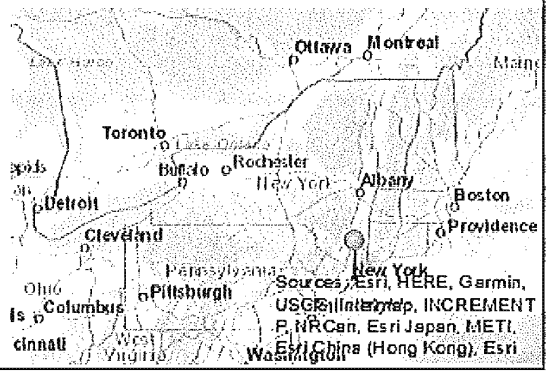
PRINT FORM

EAF Mapper Summary Report

Wednesday, April 25, 2018 4:32 PM



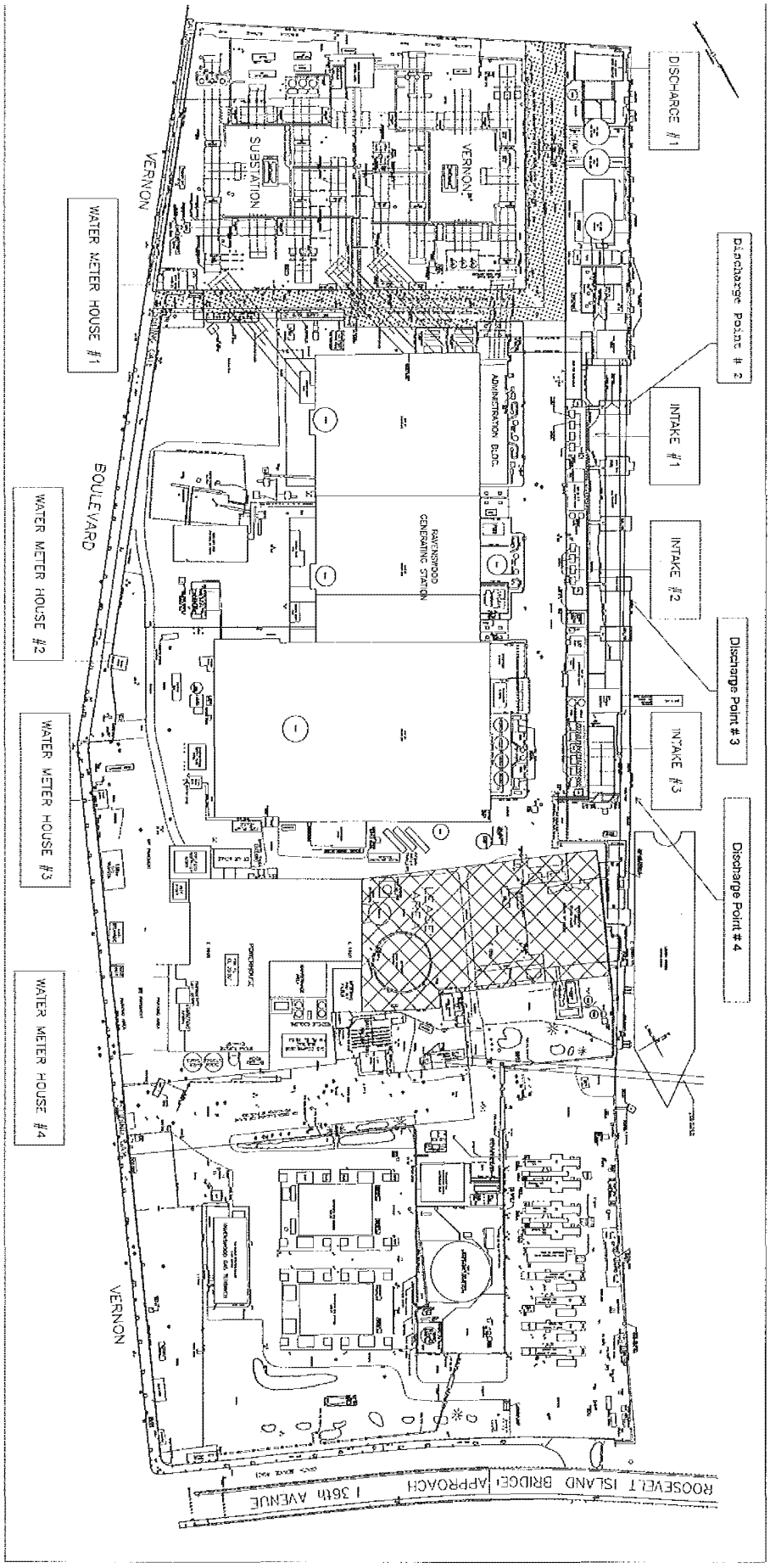
Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	V00368 , 241119
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	C241109, C241086, C241101, C241100, C241099, V00368 , 241028 , C241028 , 241126, 241119
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recreation;Fish Consumption;Aquatic Life

E.2.h. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Brooklyn-Queens SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Peregrine Falcon
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

A-392



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Circulating Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Circulating Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Circulating Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

A-393

EMAIL EXCHANGE BETWEEN DEC AND NEW YORK CITY REGARDING COASTAL ASSESSMENT FORM ("CAF"), DATED AUGUST 2018 [A- 393 - A- 394]

Sanders, Kent P (DEC)

From: Watts, Stephen (DEC)
Sent: Thursday, August 23, 2018 11:00 AM
To: Sanders, Kent P (DEC)
Subject: Fwd: LWRP Question

FYI, confirmation.

Get Outlook for Android

From: Allan Zaretsky (DCP)
Sent: Thursday, August 23, 10:16 AM
Subject: RE: LWRP Question
To: Watts, Stephen (DEC), mmarrel@planning.nyc.gov

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi Steve,

Does not sound like LWRP is required if that is the sole permitting action. Regarding permitting, federal permits or authorizations are really what trigger our review in coordination with NYDOS.

Let me know if there are any other questions

Regards,

Allan Zaretsky
WATERFRONT & OPEN SPACE
212-720-3448 I AZARETSKY@planning.nyc.gov
(Resiliency Planner)

From: Watts, Stephen (DEC) [mailto:stephen.watts@dec.ny.gov]
Sent: Wednesday, August 22, 2018 7:11 PM
To: Allan Zaretsky (DCP) <AZARETSKY@planning.nyc.gov>; Michael Marrella (DCP) <MMarrel@planning.nyc.gov>
Subject: LWRP Question

Michael, Allan –

Perhaps one of you could answer a question for a colleague up in Albany who is working on a water withdrawal permit for the Ravenswood Generating Station.

He is filling out the CAF and has the following question:

I completed the Coastal Assessment form and The only yes under Section C is it in a LWRP?
I reviewed the NYC LWRP and found no conflicts.

The permit is for the continued withdrawal of cooling water for the operation of the Ravenswood Generating Station. It involves no construction activities or operational changes. All environmental controls under the plants SPDES and Air permits remain in place.

My question is does the City need to review this action for consistency with the LWRP or is that unnecessary in this case as there are no proposed changes in the facility or operations.

Thank you,
Steve

A-395

COMPLETED CAF, DATED SEPTEMBER 13, 2018 [A-395 - A-396]

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Coastal Assessment Form

A. INSTRUCTIONS (Please print or type all answers)

1. State agencies shall complete this CAF for proposed actions which are subject to Part 600 of Title 19 of the NYCRR. This assessment is intended to supplement other information used by a state agency in making a determination of significance pursuant to the State Environmental Quality Review Act (see 6 NYCRR, Part 617). If it is determined that a proposed action will not have a significant effect on the environment, this assessment is intended to assist a state agency in complying with the certification requirements of 19 NYCRR Section 600.4.

2. If any question in Section C on this form is answered "yes", then the proposed action may affect the achievement of the coastal policies contained in Article 42 of the Executive Law. Thus, the action should be analyzed in more detail and, if necessary, modified prior to either (a) making a certification of consistency pursuant to 19 NYCRR Part 600 or, (b) making the findings required under SEQR, 6 NYCRR, Section 617.11, if the action is one for which an environmental impact statement is being prepared. If an action cannot be certified as consistent with the coastal policies, it shall not be undertaken.

3. Before answering the questions in Section C, the preparer of this form should review the coastal policies contained in 19 NYCRR Section 600.5. A proposed action should be evaluated as to its significant beneficial and adverse effects upon the coastal area.

B. DESCRIPTION OF PROPOSED ACTION

1. Type of state agency action (check appropriate response):
   (a) Directly undertaken (e.g. capital construction, planning activity, agency regulation, land transaction) ____
   (b) Financial assistance (e.g. grant, loan, subsidy) ____
   (c) Permit, license, certification X

2. Describe nature and extent of action:
   The applicant has applied for an initial permit for the continued withdrawal of up to 1.5 billion GPD of water for operation of the Ravenswood Generation Station.

3. Location of action:

Queens	Long Island City	38-54 Vernon Blvd
County	City, Town or Village	Street or Site Description

4. If an application for the proposed action has been filed with the state agency, the following information shall be provided:
   (a) Name of applicant:
   Helix Ravenswood LLC
   (b) Mailing address:
   38-54 Vernon Blvd, Long Island
   City, NY 11101
   (c) Telephone Number: Area Code
   :718-706-2705
   (d) State agency application number
   2-6304-00024/00056

5. Will the action be directly undertaken, require funding, or approval by a federal agency?
   Yes ____ No X ____ If yes, which federal agency?

C. COASTAL ASSESSMENT (Check either "YES" or "NO" for each of the following questions)

	YES	NO
1. Will the proposed activity be located in, or contiguous to, or have a significant effect upon any of the resource areas identified on the coastal area map:		
(a) Significant fish or wildlife habitats?	___	X
(b) Scenic resources of statewide significance?	___	X
(c) Important agricultural lands?	___	X

	___	___
2. Will the proposed activity have a significant effect upon:		
(a) Commercial or recreational use of fish and wildlife resources?	___	X
(b) Scenic quality of the coastal environment?	___	X
(c) Development of future, or existing water dependent uses?	___	X
(d) Operation of the State's major ports?	___	X
(e) Land and water uses within the State's small harbors?	___	X
(f) Existing or potential public recreation opportunities?	___	X
(g) Structures, sites or districts of historic, archeological or cultural significance to the State or nation?	___	X
3. Will the proposed activity involve or result in any of the following:		
(a) Physical alteration of two (2) acres or more of land along the shoreline, land under water or coastal waters?	___	X
(b) Physical alteration of five (5) acres or more of land located elsewhere in the coastal area?	___	X
(c) Expansion of existing public services of infrastructure in undeveloped or low density areas of the coastal area?	___	X
(d) Energy facility not subject to Article VII or VIII of the Public Service Law?	___	X
(e) Mining, excavation, filling or dredging in coastal waters?	___	X
(f) Reduction of existing or potential public access to or along the shore?	___	X
(g) Sale or change in use of state-owned lands located on the shoreline or under water?	___	X
(h) Development within a designated flood or erosion hazard area?	___	X
(i) Development on a beach, dune, barrier island or other natural feature that provides protection against flooding or erosion?	___	X
4. Will the proposed action be located in or have a significant effect upon an area included in an approved Local Waterfront Revitalization Program?	X	___

D. SUBMISSION REQUIREMENTS

If any question in Section C is answered "Yes", AND either of the following two conditions is met:

Section B.1(a) or B.1(b) is checked; or
Section B.1(c) is checked AND B.5 is answered "Yes",

THEN a copy of this completed Coastal Assessment Form shall be submitted to:

New York State Department of State
Office of Coastal, Local Government and Community Sustainability
One Commerce Plaza
99 Washington Avenue, Suite 1010
Albany, New York 12231-0001

If assistance or further information is needed to complete this form, please call the Department of State at (518) 474-6000.

E. REMARKS OR ADDITIONAL INFORMATION

The Station has been in operation since 1963. No changes in current operations are proposed. The Department has determined that the Facility is eligible for an Initial Permit which are limited to existing facilities for existing water withdrawals over 100,000GPD which were properly reported to the Department.

Preparer's Name: Kent P. Sanders

Title: Environmental Analyst III
Agency: New York State Department of Environmental Conservation
Telephone Number: 518 402-9178
Date: 9/13/18

smf 4/10/12

A-397

LETTER AND NOTICE OF COMPLETE APPLICATION TO RAVENSWOOD FOR 2019 WATER WITHDRAWAL PERMIT ("2019 PERMIT") APPLICATION, DATED SEPTEMBER 25, 2018 [A-397 - A-399]

New York State Department of Environmental Conservation
Division of Environmental Permits
NYSDEC Headquarters
625 Broadway
Albany, NY 12233
(518) 402-9167

September 25, 2018

TANJA GRZESKOWITZ
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101

Re: DEC ID # 2-6304-00024/00056
RAVENSWOOD GENERATING STATION

Dear Applicant Agent :

Please be advised that your application for a DEC permit(s) is complete and a technical review has commenced. Notice and the opportunity for public comment is required for this application. Enclosed is a Notice of Complete Application for your project. Please have the Notice published in the newspaper identified below once during the week of 10/1/2018 on any day Monday through Friday.

The official newspaper of the Town (City) of QUEENS.
Contact the Town (City) Clerk's office to confirm the official newspaper.

On the Notice of Complete Application, that information presented between the horizontal lines, on the enclosed page(s) should be published. Do not print this letter or the information contained below the second horizontal line. Please request the newspaper publisher to provide you with a Proof of Publication for the Notice. Upon receipt of the Proof of Publication promptly forward it to this office. You must provide the Proof of Publication before a final decision can be rendered on your application. You are responsible for paying the cost of publishing the Notice in the newspaper.

Notification of this complete application is also being provided by this Department in the NYSDEC Environmental Notice Bulletin.

This notification does not signify approval of your application for permit. Additional information may be requested from you at a future date, if deemed necessary to reach a decision on your application. Your project is classified minor under the Uniform Procedures Act. Accordingly, a decision is due within 45 days of the date of this notice unless a public hearing is held, which may extend this time frame. If a public hearing is necessary, you will be notified.

If you have any questions please contact me at the above address or phone number above.

Sincerely,

KENT P SANDERS
Division of Environmental Permits

A-398

THIS IS NOT A PERMIT

New York State Department of Environmental Conservation
Notice of Complete Application

Date: 09/25/2018

Applicant: HELIX RAVENSWOOD LLC
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101

Facility: RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Application ID: 2-6304-00024/00056

Permits(s) Applied for: 1 - Article 15 Title 15 Water Withdrawal Non-public

Project is located: in QUEENS COUNTY

Project Description:
The applicant has applied for an initial water withdrawal permit to the above-referenced applicant authorizing the continued withdrawal of water up to approximately 1.5 billion gallons per day from the East River, for use as cooling water for electrical power production.
No physical disturbance to the site or construction activities are proposed. No changes in operations at the facility are proposed.

Availability of Application Documents:
Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination
Project is a Type I action and will not have a significant effect on the environment. A coordinated review with other involved agencies was performed and a Negative Declaration is on file.

SEQR Lead Agency NYS Department of Environmental Conservation

State Historic Preservation Act (SHPA) Determination
The proposed activity is not subject to review in accordance with SHPA. The application type is exempt and/or the project involves the continuation of an existing operational activity.

Coastal Management
This project is located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act.

DEC Commissioner Policy 29, Environmental Justice and Permitting (CP-29)
It has been determined that the proposed action is not subject to CP-29.

Availability For Public Comment

Comments on this project must be submitted in writing to the Contact Person no later than 10/18/2018 or 15 days after the publication date of this notice, whichever is later.

Contact Person

KENT P SANDERS
NYSDEC
625 Broadway
Albany, NY 12233
(518) 402-9178

CC List for Complete Notice

Chief Executive Officer

TANJA GRZESKOWITZ
ENB

A-400

COMPLETED PARTS 1, 2, AND 3 OF FULL ENVIRONMENTAL ASSESSMENT FORM ACCOMPANYING APPLICATION FOR 2019 PERMIT [A-400 - A-427]

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Application for Water Withdrawal Permit (DEC ID# 2-6304-00024-00054)		
Project Location (describe, and attach a general location map): Ravenswood cooling water intakes; located on the shoreline of the East River. North of the Queensboro Bridge and south of the Roosevelt Island Bridge		
Brief Description of Proposed Action (include purpose or need): The Ravenswood Generating Station (RGS), an electric generating facility consisting of three (3) conventional boilers (Units 10/20/30), a combined cycle unit (Unit 40), and three (3) operational simple cycle units (GT1, GT10, GT11), is located in Long Island City, New York and is situated along the bank of the upper East River, across from Roosevelt Island. The existing water withdrawal system was commissioned in 1963 and is used to supply once through cooling water for Units 10, 20 and 30. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condenser to condense exhausted steam from the low pressure turbine. Water withdrawn is return to the East River via SPDES permit NY 0005193. The facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. Supplemental technology includes Variable Speed Pumps (VSP) and Vacuum Priming Systems (VPS) on the Cooling Water Intake Structures (CWIS). This technology is used to reduce impingement and entrainment of aquatic organisms by incremental reductions in cooling water intake flows by operating the circulating water pumps at less than full capacity. For 2017-2018, the daily average water withdrawal from the East River was 371 million gallons per day (MGD) and the maximum day withdrawal was 1358 MGD. As of August 2, 2017, there have been no modifications or changes to the water withdrawal system.		
Name of Applicant/Sponsor: Helix Ravenswood, LLC	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Project Contact (if not same as sponsor; give name and title/role): Tanja Grzeskowitz - Compliance Manager	Telephone: E-Mail:	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Property Owner (if not same as sponsor):	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Council, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☐Yes☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☐Yes☑No		
e. County agencies ☐Yes☑No		
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	New York State Department of Environmental Conservation	
h. Federal agencies ☐Yes☑No		
i. Coastal Resources. *i.* Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes☐No *ii.* Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes☐No *iii.* Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No		

C. Planning and Zoning

C.1. Planning and zoning actions.	
Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? • **If Yes,** complete sections C, F and G. • **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1	☑Yes☐No
C.2. Adopted land use plans.	
a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located?	☐Yes☑No
If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?	☐Yes☐No
b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) If Yes, identify the plan(s): Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park	☑Yes☐No
c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? If Yes, identify the plan(s):	☐Yes☑No

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☐ Yes ☑ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Queens, District 30

b. What police or other public protection forces serve the project site?
NYPD, US Coast Guard

c. Which fire protection and emergency medical services serve the project site?
FDNY

d. What parks serve the project site?

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial, Commercial

b. a. Total acreage of the site of the proposed action? 0 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 26 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % Units:

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed?
iv. Minimum and maximum proposed lot sizes? Minimum Maximum

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: N/A months
ii. If Yes:
- Total number of phases anticipated
- Anticipated commencement date of phase 1 (including demolition) month year
- Anticipated completion date of final phase month year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures _____
ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length
iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: _____
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify: _____
iii. If other than water, identify the type of impounded/contained liquids and their source. _____
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐Yes ☑No
If Yes:
i. What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____
v. What is the total area to be dredged or excavated? _____ acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

_____

_____

_____

_____

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No

If Yes, describe: _____

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

_____

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☑ No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

_____

- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No

If, Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

_____

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

_____

_____

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

_____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

_____

- If to surface waters, identify receiving water bodies or wetlands: _____

_____

- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

_____

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

_____

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

_____

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐ Morning ☐ Evening ☐Weekend ☐ Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: n/a
- Saturday: n/a
- Sunday: n/a
- Holidays: n/a

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: 24 hours

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No

Describe:

n.. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☐ No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction:
- Operation:

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction:
- Operation:

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☑ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	26	26	0
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain:

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No
If Yes,
i. Identify Facilities:

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification:
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☐No
- If yes, cite sources/documentation:

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:
iii. Describe any development constraints due to the prior solid waste activities:

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☑Yes ☐No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
The site produces non-acute hazardous waste under a "Small Quantity Generator" status. Waste is contained in a hazardous waste storage area, inventoried weekly, sampled and tested for hazardous materials which are shipped off site to a treatment facility in compliance with RCRA regulations.

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑Yes ☐No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑Yes ☐No
☑ Yes – Spills Incidents database — Provide DEC ID number(s): 1510992,110822,905194,912294,100852
☑ Yes – Environmental Site Remediation database — Provide DEC ID number(s): V00368 , 241119
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑Yes ☐No
If yes, provide DEC ID number(s): C241109, C241086, C241101, C241100, C241099, V0...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

DEC ID# V00368 (Voluntary Cleanup Program) is satisfactorily closed.
DEC ID# 241119 remains with classification "P"
DEC ID# C241109, C241086, C241101, C241100, C241099 are not associated with Ravenswood Generating Station

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number:
- Describe the type of institutional control (e.g., deed restriction or easement):
- Describe any use limitations:
- Describe any engineering controls:
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☑ No
- Explain:

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 25 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? ____ %

c. Predominant soil type(s) present on project site:

Silt loam	N/A %
loamy sand	N/A %
fine sandy loam	N/A %

d. What is the average depth to the water table on the project site? Average: 7-10 feet

e. Drainage status of project site soils:

☐ Well Drained:	N/A % of site
☐ Moderately Well Drained:	N/A % of site
☐ Poorly Drained	N/A % of site

f. Approximate proportion of proposed action site with slopes:

☐ 0-10%:	N/A % of site
☐ 10-15%:	N/A % of site
☐ 15% or greater:	N/A % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe:

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name ____ Classification ____
- Lakes or Ponds: Name ____ Classification ____
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters Approximate Size ____
- Wetland No. (if regulated by DEC) East River Watershed (0203010201)

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑ Yes ☐ No

If yes, name of impaired water body/bodies and basis for listing as impaired:
Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recreation;Fish Consumption;Aqua...

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500 year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Brooklyn-Queens SSA

m. Identify the predominant wildlife species that occupy or use the project site: _____

n. Does the project site contain a designated significant natural community? ☐Yes ☑No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No

Peregrine Falcon

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places?	☐ Yes ☑ No
If Yes: *i.* Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District *ii.* Name: _____ *iii.* Brief description of attributes on which listing is based: _____	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	☑ Yes ☐ No
g. Have additional archaeological or historic site(s) or resources been identified on the project site? If Yes: *i.* Describe possible resource(s): _____ *ii.* Basis for identification: _____	☐ Yes ☑ No
h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If Yes: *i.* Identify resource: _____ *ii.* Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____ *iii.* Distance between project and resource: _____ miles.	☐ Yes ☑ No
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? If Yes: *i.* Identify the name of the river and its designation: _____ *ii.* Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	☐ Yes ☑ No ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or mininize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

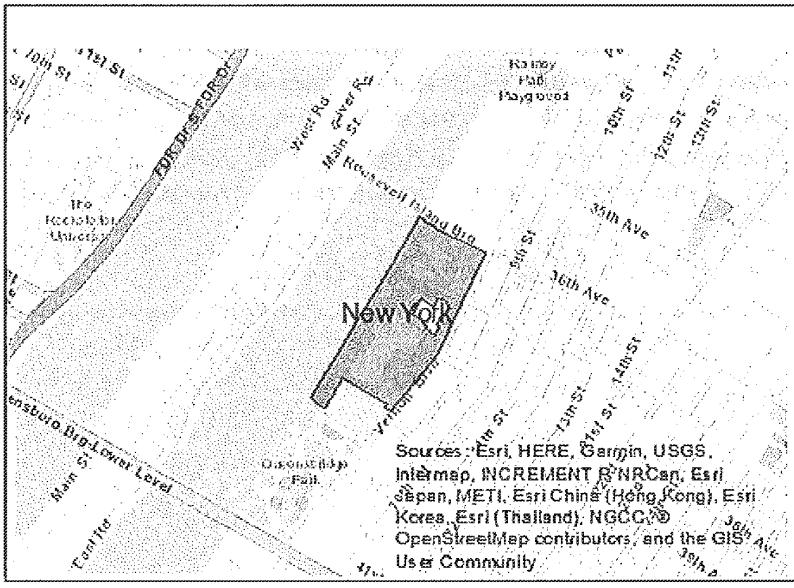
Applicant/Sponsor Name Helix Ravenswood LLC Date 5/4/18

Signature [signature] Title Compliance Manager

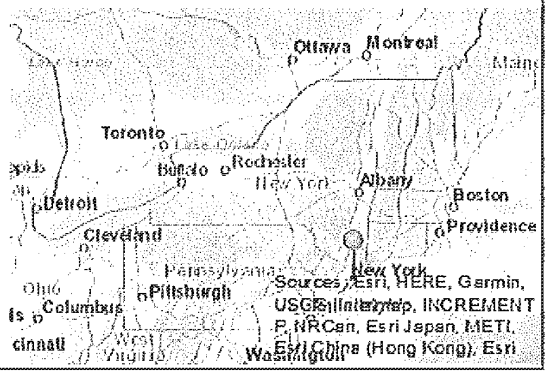
PRINT FORM

EAF Mapper Summary Report

Wednesday, April 25, 2018 4:32 PM



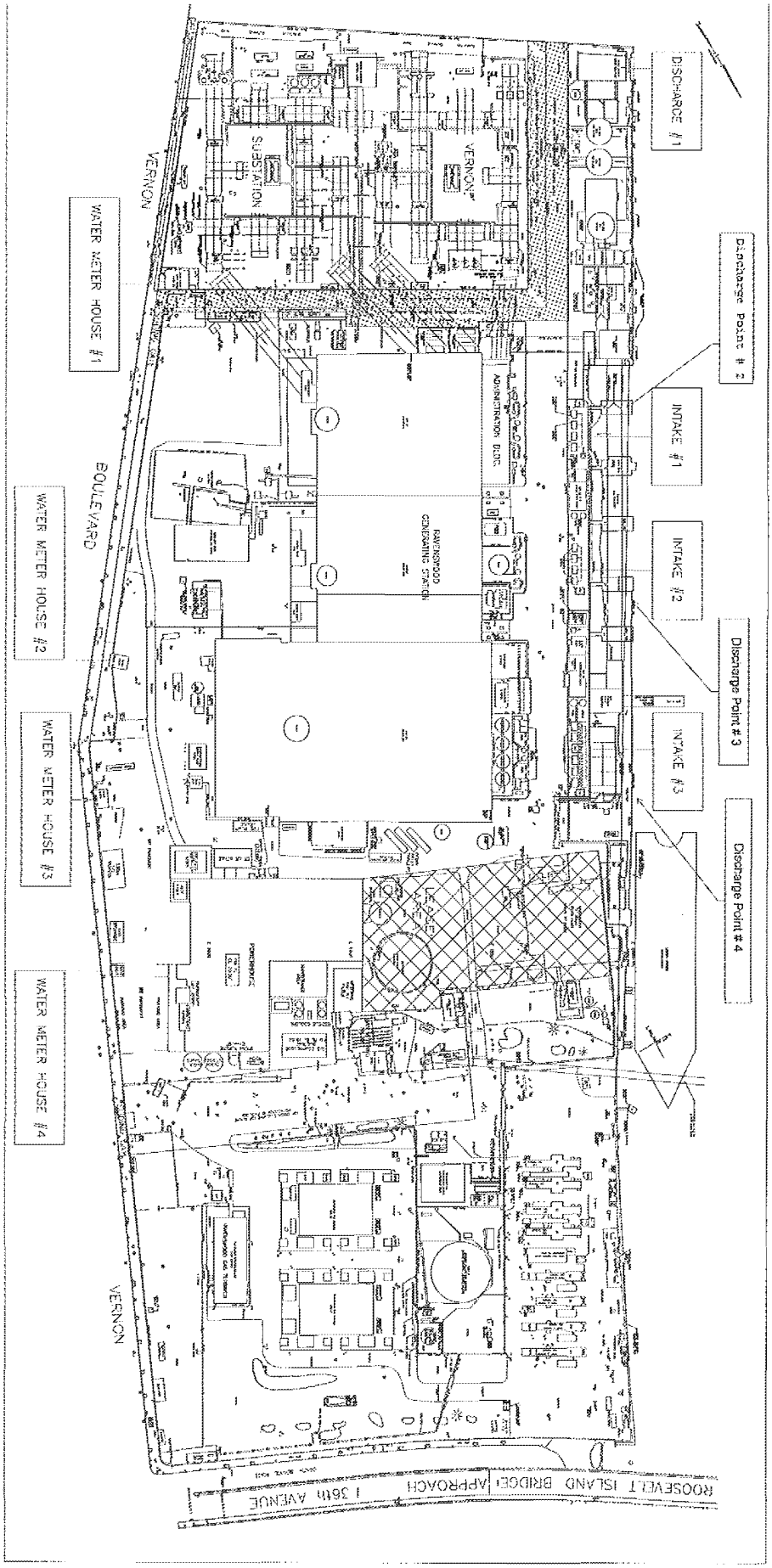
Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	V00368 , 241119
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	C241109, C241086, C241101, C241100, C241099, V00368 , 241028 , C241028 , 241126, 241119
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recreation;Fish Consumption;Aquatic Life

E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Brooklyn-Queens SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Peregrine Falcon
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No

A-415



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Circulating Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Circulating Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Circulating Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Agency Use Only [If applicable]
Project: 2-6304-00024/00054
Date: 7/6/2018

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes**" to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No**" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1)
If "Yes", answer questions a - j. If "No", move on to Section 2.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____		☐	☐

2. Impact on Geological Features

The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) ☑ NO ☐ YES

If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____		☐	☐

3. Impacts on Surface Water

The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) ☐ NO ☑ YES

If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☑	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☑	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☑	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☑	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☑	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☑	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☑	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☑	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☑	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☑	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☑	☐

l. Other impacts: _____		☐	☐

4. Impact on groundwater
The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t) ☑NO ☐YES
If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: _____		☐	☐

5. Impact on Flooding
The proposed action may result in development on lands subject to flooding. (See Part 1. E.2) ☑NO ☐YES
If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☐	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☐	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☐	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☐	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☐	☐

g. Other impacts: _____		☐	☐

6. Impacts on Air
The proposed action may include a state regulated air emission source. ☐NO ☑YES
(See Part 1. D.2.f., D,2,h, D.2.g)
If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☑	☐
f. Other impacts: _____		☐	☐

7. Impact on Plants and Animals
The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☐NO ☑YES
If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☑	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☑	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☑	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☑	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☑	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☑	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☑
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☑	☐
j. Other impacts: _____		☐	☐

8. Impact on Agricultural Resources
The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑NO ☐YES
If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, E1b	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	E1 a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources
The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)
If "Yes", answer questions a - g. If "No", go to Section 10.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____		☐	☐

10. Impact on Historic and Archeological Resources
The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)
If "Yes", answer questions a - e. If "No", go to Section 11.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: _____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: _____		☐	☐

13. Impact on Transportation
The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____		☐	☐

14. Impact on Energy
The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____			

15. Impact on Noise, Odor, and Light
The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: _____		☐	☐

16. Impact on Human Health

The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part 1.D.2.q., E.1. d. f. g. and h.) ☐ NO ☑ YES

If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may occur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☑	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☑	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☑	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☑	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☑	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☑	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☑	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☑	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☑	☐
m. Other impacts: _____		☐	☐

17. Consistency with Community Plans
The proposed action is not consistent with adopted land use plans. ☑ NO ☐ YES
(See Part 1. C.1, C.2. and C.3.)
If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, E1b	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character
The proposed project is inconsistent with the existing community character. ☑ NO ☐ YES
(See Part 1. C.2; C.3, D.2, E.3)
If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

PRINT FULL FORM

Agency Use Only [IfApplicable]

Project:

Date:

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Criteria for determining Significance under NYCRR Part 617.7(c)

(ii) the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources;

The current water withdrawal regime was established by a Department initiated modification to the Facilities SPDES permit in 2006. As part of that review process the Department issued a Negative Declaration of Significance. The Department required measures to ensure the facility operated in accordance with 6 NYCRR Part 704.5 and Section 316(b) of Clean Water Act. These regulations require that a facility minimize impacts from impingement and entrainment on aquatic organisms from the cooling water intake. Further discussion of the measures employed to minimize impacts from the facility's cooling water intake structure is provided below.

First, the facility employs a fish-friendly return system to increase the survivability of fish that become impinged on the intake screen. The current SPDES permit also required the installation of variable speed pumps on each unit. Variable speed pumps allow for the reduction in cooling water used during reduced power demand and colder source water conditions. In addition, the to the traveling screens on all the units were required to be upgraded. The improvements will allow for the continuous use of the screens and thereby increase the impingement survival. The SPDES permit also requires the scheduling of planned outages to minimize water usage during periods of high fish and egg abundance in the river.

All of the above measures will result in the reduction of impingement mortality by 90% and entrainment mortality by 65% over baseline conditions. These reductions will result in positive environmental benefits to the aquatic resources of the East River. Further, none of the proposed measures require the physical disturbance of either land or the river bed. The proposed measures will also not impact the water column or any benthic habitat.
The 2012 SPDES permit renewal requires continued use of the BTA measures, and verification monitoring. If the monitoring results indicate the required reductions in impingement and entrainment are not met, the permittee must propose additional technologies to be implemented at the facility that will allow them to meet the impingement and entrainment reductions.

Coastal Consistency
A Coastal Assessment Form (CAF)was completed for this Project. Further review by the Department of State was not indicated. The New York City Local Waterfront Revitalization Plan was reviewed. No conflict with the LWRP was found.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Department of Environemntal Conservation as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Ravenswood Generation Station Initial Water Withdrawal Permit

Name of Lead Agency: NYSDEC

Name of Responsible Officer in Lead Agency: Kent P. Sanders

Title of Responsible Officer: Environmental Analyst III

Signature of Responsible Officer in Lead Agency: Kent P. Sanders Date: 9/25/2018

Signature of Preparer (if different from Responsible Officer) Date:

For Further Information:

Contact Person: Kent P. Sanders

Address: NYSDEC, 4th Floor 625 Broadway, Albany, 12233-1750

Telephone Number: 518 402 9178

E-mail: deppermitting@dec.ny.gov

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ENB - Region 2 Notices 10/3/2018

Public Notice

Fact Sheet

The New York State Department of Environmental Conservation (NYS DEC) has received a Brownfield Cleanup Program (BCP) application and Draft Remedial Investigation Work Plan from Redfern FRP LLC, FRV Phase 1 Moderate LLC, FRV Phase 1 LIHTC LLC, FRV Phase 1 Commercial LLC, and Rockaway Village Housing Development Fund Corporation for a site known as Far Rockaway Project, site ID #C241224. This site is located in the neighborhood of Far Rockaway, within the Borough Queens and is located at 20-02 Mott Avenue.

A copy of the application, Draft Remedial Investigation Work Plan and other relevant documents are available at the document repositories located at Queens Public Library, Far Rockaway Branch, 1637 Central Avenue, Far Rockaway, NY 11691 and Queens Community Board 14, 1931 Mott Avenue, Room 311, Far Rockaway, NY 11691.

There are several ways to comment on BCP applications. Comments can be submitted to: Christopher Allan, NYS DEC - Region 2 Office, Division of Environmental Remediation, 47-40 21st Street, Long Island City, NY 11101-5401, Phone: (718) 482-4995, E-mail: christopher.allan@dec.ny.gov. **All comments must be submitted by November 2, 2018.**

Site information can be viewed by entering the site ID noted above at: http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3

We would also encourage those interested in receiving information on future activities at this site or any other site to sign up to NYS DEC's Contaminated Sites Email List at: http://www.dec.ny.gov/chemical/61092.html

What is the Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) is designed to encourage private-sector cleanups of brownfields and to promote their redevelopment as a means to revitalize economically blighted communities. The BCP is an alternative to "greenfield" (land not previously developed or contaminated) development and is intended to remove some of the barriers to, and provide tax incentives for, the redevelopment of brownfields. Since its inception (2003), the BCP has catalyzed the cleanup of more than 300 contaminated sites statewide and incentivized redevelopment. There are more than 350 active sites in the BCP.

Additional information on the New York State's Brownfield program is available at NYS DEC's website: http://www.dec.ny.gov/chemical/8450.html

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Negative Declaration

Kings County (Brooklyn) - The New York City Board of Standards and Appeals (NYC BSA), as lead agency, has determined that the proposed 73-77 Sands Street/2018-62-BZ/18BSA132K will not have a significant adverse environmental impact.

The action involves a request for a Special Permit (§73-19) to permit the operation of a school (UG 3) (Brooklyn Laboratory Charter School) to be located on portions of the first, the second through fifth floors and part of the twelfth floor of an existing building contrary to ZR §42-10. M1-6 zoning district.

The project is located 73-77 Sands Street in the Borough of Brooklyn, New York.

Contact: Tracie Behnke, NYC BSA, 250 Broadway, 29th Floor, New York, NY 10007; Phone: (212) 386-0086, Fax: (646) 500-6271, E-mail: tbehnke@bsa.nyc.gov

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New York County (Manhattan) - The New York City Board of Standards and Appeals (NYC BSA), as lead agency, has determined that the proposed 323-27 Avenue of the Americas/2016-4138-BZ/16BSA092M will not have a significant adverse environmental impact.

The action involves a request for a Variance (§72-21) for an enlargement of an existing motion picture theater (IFC Center) contrary to both use and bulk requirements. C1-5/R7-2 and R6 zoning district.

The project is located 323-27 Avenue of the Americas in the Borough of Manhattan, New York.

Contact: Tracie Behnke, NYC BSA, 250 Broadway, 29th Floor, New York, NY 10007; Phone: (212) 386-0086, Fax: (646) 500-6271, E-mail: tbehnke@bsa.nyc.gov

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New York County (Manhattan) - The New York City Board of Standards and Appeals, as lead agency, has determined that the proposed 310 Lenox Avenue/2017-240-BZ/18BSA016M will not have a significant adverse environmental impact.

The action involves a request for a Special Permit (§73-244) to permit the legalization of the conversion of the cellar level of an existing eating and drinking establishment without restrictions and no limitation on entertainment and dancing (UG 12A) (Red Rooster Harlem Restaurant) located on the cellar level . C4-4A (Special 125th Street District).

The project is located at 310 Lenox Avenue in the Borough of Manhattan, New York.

Contact: Tracie Behnke, NYC BSA, 250 Broadway, 29th Floor, New York, NY 10007; Phone: (212) 386-0086, Fax: (646) 500-6271, E-mail: tbehnke@bsa.nyc.gov

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Queens County (Queens) - The New York State Department of Environmental Conservation (NYS DEC), as lead agency, has determined that the proposed Ravenswood Generating Station Initial Water Withdrawal Permit will not have a significant adverse environmental impact.

The applicant has applied for an initial permit for the continued withdrawal of up to 1.5 BGD of cooling water from the East River for electrical generation at the Ravenswood Generating Station, The facility has been in operation since 1963. The facility currently operates under SPDES and Air Permits from NYS DEC. No changes in current operations are proposed. NYS DEC has determined that the Facility is eligible for an Initial Permit under Section 15-501.(9) of the Environmental Conservation Law. Initial Permits are limited to existing facilities for existing water withdrawals over 100,000 GPD which were properly reported to NYS DEC prior to February 15, 2012. Section 15-501.(9) requires NYS DEC to issue Initial Water Withdrawal Permits for the reported volume.

The project is located 38-54 Vernon Boulevard in Long Island City, New York.

Contact: Kent P. Sanders, NYS DEC - Division of Environmental Remediation, 625 Broadway, 4th Floor, Albany, NY 12233-1750; Phone: (518) 402-9178, E-mail: deppermitting@dec.ny.gov

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Positive Declaration and Public Scoping

Queens County (Queens) - The New York City Office Deputy Mayor for Housing and Economic Development, as lead agency, has determined that the proposed Long Island City Innovation Center (LICIC)

may have a significant adverse impact on the environment and a Draft Environmental Impact Statement must be prepared. A public scoping session was held on September 17, 2018 at 2 Court Square West, Long Island City, NY 11101. **The public comment period for the draft scope has been extended and written comments will be accepted until 5:00 p.m. October 19, 2018.** Written comments made be submitted to the contact listed below.

Copies of the Environmental Assessment Statement, Positive Declaration and Draft Scope of Work are available on the website of the New York City Mayor's Office of Environmental Coordination: www.nyc.gov/oec.

The proposed project involves redevelopment of two sites located along 44th Drive in Long Island City, Queens Community District 2. Also as part of the proposed project, the New York City Department of Transportation (NYC DOT) operations will be relocated to a new facility to be constructed at 38-21 12th Street.

Contact: Ingrid Young, New York City Mayor's Office of Environmental Coordination, 253 Broadway, 14th Floor, New York, NY 10007, Phone: (212) 788-7779, E-mail: iyoung@moec.nyc.gov

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A-431

EMAIL EXCHANGE BETWEEN DEC AND RACHEL TREICHLER, DATED OCTOBER 4, 2018 [A-431 - A-434]

Sanders, Kent P (DEC)

From: Rachel Treichler <treichlerlaw@frontiernet.net>
Sent: Thursday, October 04, 2018 9:53 AM
To: dec.sm.DEPPermitting
Subject: Request for Ravenswood Draft Permit and Negative Declaration

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Mr. Sanders,

Pursuant to notice in yesterday's ENB of the new draft permit and negative declaration for the Ravenswood water withdrawal permit, please email me a copy of the draft permit and the negative declaration.

Many thanks!

Rachel Treichler

Law Office of Rachel Treichler
7988 Van Amburg Road
Hammondsport, NY 14840
607-569-2114
http://treichlerlawoffice.com

https://www.dec.ny.gov/enb/20181003_reg2.html#263040002400056

Queens County

Applicant:

Helix Ravenswood LLC
38-54 Vernon Blvd
Long Island City, NY 11101

Facility:

Ravenswood Generating Station
38-54 Vernon Blvd
Queens, NY 11101

Application ID:

2-6304-00024/00056

Permit(s) Applied for:

Article 15 Title 15 Water Withdrawal Non-public

Project is Located:

Queens, Queens County

Project Description:

The applicant has applied for an initial water withdrawal permit to the above-referenced applicant authorizing the continued withdrawal of water up to approximately 1.5 billion gallons per day from the East River, for use as cooling water for electrical power production. No physical disturbance to the site or construction activities are proposed. No changes in operations at the facility are proposed.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is a Type I action and will not have a significant effect on the environment. A coordinated review with other agencies was performed and a Negative Declaration is on file.

SEQR Lead Agency: NYS Department of Environmental Conservation

State Historic Preservation Act (SHPA) Determination:

The proposed activity is not subject to review in accordance with SHPA. The application type is exempt and/or the project involves the continuation of an existing operational activity.

Coastal Management:

This project is located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act.

DEC Commissioner Policy 29, Environmental Justice and Permitting (CP-29)

It has been determined that the proposed action is not subject to CP-29.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Oct 18, 2018*.

Contact:

Kent P Sanders
NYSDEC Headquarters
625 Broadway
Albany, NY 12233
(518) 402-9167
DEPPermitting@dec.ny.gov

To: Rachel Treichler[treichlerlaw@frontiernet.net]
From: dec.sm.InitialWWPermits[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=906F209F3BC44BC08DF3E1A372D2D560-DEC.SM.INIT]
Sent: Thur 10/4/2018 3:21:28 PM Eastern Daylight Time
Subject: RE: Request for Ravenswood Draft Permit and Negative Declaration
Attachment: Ravenswood feaf part3Final.signed.pdf

Dear Ms. Treichler,
Attached please find a copy of the Negative Declaration of Significance for the Initial Water Withdrawal Permit for the Ravenswood Generating Station. As we discussed the Department is not proposing changes to the previously issued permit. Please let me know if you would like additional information.
Sincerely,
Kent P. Sanders
Deputy Chief Permit Administrator
Div. of Environ. Permits – NYSDEC
625 Broadway, Albany

From: Rachel Treichler [mailto:treichlerlaw@frontiernet.net]
Sent: Thursday, October 04, 2018 9:53 AM
To: dec.sm.DEPPermitting <DEPPermitting@dec.ny.gov>
Subject: Request for Ravenswood Draft Permit and Negative Declaration

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Mr. Sanders,

Pursuant to notice in yesterday's ENB of the new draft permit and negative declaration for the Ravenswood water withdrawal permit, please email me a copy of the draft permit and the negative declaration.

Many thanks!

Rachel Treichler

Law Office of Rachel Treichler
7988 Van Amburg Road
Hammondsport, NY 14840
607-569-2114
http://treichlerlawoffice.com

https://www.dec.ny.gov/enb/20181003_reg2.html#263040002400056

Queens County

Applicant:

Helix Ravenswood LLC
38-54 Vernon Blvd
Long Island City, NY 11101

Facility:

Ravenswood Generating Station
38-54 Vernon Blvd
Queens, NY 11101

Application ID:

2-6304-00024/00056

Permit(s) Applied for:

Article 15 Title 15 Water Withdrawal Non-public

Project is Located:

Queens, Queens County

Project Description:

The applicant has applied for an initial water withdrawal permit to the above-referenced applicant authorizing the continued withdrawal of water up to approximately 1.5 billion gallons per day from the East River, for use as cooling water for electrical power production. No physical disturbance to the site or construction activities are proposed. No changes in operations at the facility are proposed.

Availability of Application Documents:

Filed application documents, and Department draft permits where applicable, are available for inspection during normal business hours at the address of the contact person. To ensure timely service at the time of inspection, it is recommended that an appointment be made with the contact person.

State Environmental Quality Review (SEQR) Determination:

Project is a Type I action and will not have a significant effect on the environment. A coordinated review with other agencies was performed and a Negative Declaration is on file.

SEQR Lead Agency: NYS Department of Environmental Conservation

State Historic Preservation Act (SHPA) Determination:

The proposed activity is not subject to review in accordance with SHPA. The application type is exempt and/or the project involves the continuation of an existing operational activity.

Coastal Management:

This project is located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act.

DEC Commissioner Policy 29, Environmental Justice and Permitting (CP-29)

It has been determined that the proposed action is not subject to CP-29.

Opportunity for Public Comment:

Comments on this project must be submitted in writing to the Contact Person no later than *Oct 18, 2018.*

Contact:

Kent P Sanders
NYSDEC Headquarters
625 Broadway
Albany, NY 12233
(518) 402-9167
DEPPermitting@dec.ny.gov

A-435

EMAIL FROM KAREN BIESANZ TO DEC REQUESTING 90-DAY EXTENSION OF COMMENT PERIOD ON 2019 PERMIT, DATED OCTOBER 4, 2018

Sanders, Kent P (DEC)

From: Karen Biesanz <karenb@stny.rr.com>
Sent: Thursday, October 04, 2018 10:23 AM
To: dec.sm.DEPPermitting
Subject: Time extension request

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Mr. Sanders:

I would like to request a 90 day extension on the comment period regarding the new Ravenswood water withdrawal permit and negative declaration until January 18, 2019.

I need more time to comment on a permit to take up to 1,500,000,000 gallons a day from the East River and a determination that such withdrawals will have no significant environmental impact. I just saw the notice and don't even have the draft permit, the negative declaration or the coastal zone review yet.

Thank you for your understanding.

Karen Biesanz

215 Watauga Ave

Corning, NY. 14830

(607) 936-3915

A-436

LETTER FROM JEAN FINCH TO DEC REQUESTING 90-DAY EXTENSION OF COMMENT PERIOD ON 2019 PERMIT, DATED OCTOBER 14, 2018

Responded to
Correct Zip code - 13326-6404
10/19/18

NYSDEC

OCT 18 2018

Division of
Environmental Permits

October 14, 2018

Request to Mr. Kent P. Sanders,

Please extend the comment period to 90 days,- January 18, 2019.

Concerning:

9 months after the water wihdrawel permit was denied by the state appeals court in Brooklyn- issued by the DEC-, it was announced last week that the DEC plans to reissue exactly the same permit.

Please send a copy of the draft permit and the negative declaration.

Thank you, Jean Finch

Jean E. Finch

P.S. Are you aware of how many Kent Sanders there are in the states? (I neglected to put your middle initial on.)

A-437

LETTER FROM JOHN KASTNER TO DEC REQUESTING 90-DAY EXTENSION OF COMMENT PERIOD ON 2019 PERMIT, DATED OCTOBER 4, 2018

Sanders, Kent P (DEC)

From: jkastner@weeblax-uzzl.com
Sent: Thursday, October 04, 2018 11:39 AM
To: dec.sm.DEPPermitting
Subject: Ravenswood water withdrawal permit

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Sent from my iPad. I am requesting that the DEC grant a 90 day extension on comments and challenges to Ravenswood LLC pending water withdrawal permit to allow sufficient time to study the potential environmental impact of removing 1.5 billion gallons of water per day from the east river. Withdrawal of such a massive amount of water needs to be considered carefully before any permit is issued, thank you , John Kastner , Rochester NY

A-438

LETTER FROM MAURA STEPHENS TO DEC REQUESTING 90-DAY EXTENSION OF COMMENT PERIOD ON 2019 PERMIT, DATED OCTOBER 4, 2018 [A-438 - A-439]

Sanders, Kent P (DEC)

From: Maura Stephens <maurastephens1@gmail.com>
Sent: Thursday, October 04, 2018 11:57 AM
To: dec.sm.DEPPermitting; dec.sm.DEP.R2
Subject: DEC: Grant 90 day extension to comment on the new Ravenswood water withdrawal permit

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

In reference to
Applicant: Helix Ravenswood LLC; 38-54 Vernon Blvd, Long Island City, NY 11101;
Facility: Ravenswood Generating Station
Application ID: 2-6304-00024/00056
Permit(s) Applied for: Article 15 Title 15 Water Withdrawal Non-public

DEC:

We need more time to comment on a permit to take up to 1.5 TRILLION GALLONS OF WATER A DAY from the East River and a determination that such withdrawals will have no significant environmental impact, which on the face of it seems quite impossible.

We just saw the notice yesterday afternoon and don't even have the draft permit, the negative declaration or the coastal zone review yet. This makes a mockery of public input into an industrial activity that could very likely affect many millions of lives.

Please issue a 90-day minimum extension to the public comment period, and please provide immediately a copy of the draft permit and the negative declaration by Helix Ravenswood LLC.

On January 10, 2018, the Appellate Division Second Department invalidated the original Ravenswood water withdrawal permit. It has taken DEC those nine months to announce a new draft permit in this week's Environmental Notice Bulletin.

The original Ravenswood permit, the first issued under the new water withdrawal permitting law enacted by the New York legislature in 2011, was negated on the ground that DEC incorrectly classified it as a Type II action under SEQRA.

DEC now classifies it as a Type I action but without explanation has apparently determined that the withdrawal will have no significant environmental impact and therefore will not require a full SEQRA review.

That is simply unsound practice for any environmental protection agency. DEC should conduct a full environmental review and evaluate the impacts of closed-cycle cooling, which process could reduce water usage by 99 percent.

Maura Stephens
PO Box 403, Spencer NY 14883
Founding member of the Coalition to Protect New York and other grassroots organizations

A-440

LETTER FROM DWAIN WILDER TO DEC REQUESTING 90-DAY EXTENSION OF COMMENT PERIOD ON 2019 PERMIT, DATED OCTOBER 4, 2018 [A-440 - A-441]

Sanders, Kent P (DEC)

From: Watts, Stephen (DEC)
Sent: Thursday, October 04, 2018 12:00 PM
To: Sanders, Kent P (DEC)
Cc: Nichols, Caitlyn P (DEC)
Subject: FW: Public comment on Ravenswood water withdrawal permit

Kent –

Sending this directly to you as well...

From: Nichols, Caitlyn P (DEC)
Sent: Thursday, October 04, 2018 10:43 AM
To: Watts, Stephen (DEC) <stephen.watts@dec.ny.gov>; dec.sm.DEPPermitting <DEPPermitting@dec.ny.gov>
Subject: FW: Public comment on Ravenswood water withdrawal permit

FYI

From: dec.sm.DEP.R2
Sent: Thursday, October 04, 2018 10:38 AM
To: Nichols, Caitlyn P (DEC) <Caitlyn.Nichols@dec.ny.gov>
Subject: FW: Public comment on Ravenswood water withdrawal permit

From: Dwain Wilder [mailto:dwilder@rochester.rr.com]
Sent: Thursday, October 04, 2018 10:31 AM
To: dec.sm.DEP.R2 <DEP.R2@dec.ny.gov>
Subject: Re: Public comment on Ravenswood water withdrawal permit

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Ms Nichols,

Please extend the Public Comment period for the Ravenswood water withdrawal permit 90 days, until January 18.

The public needs more time to comment on a permit to take up to 1,500,000,000 gallons a day from the East River and a determination that such withdrawals will have no significant environmental impact. We just saw the notice yesterday afternoon and don't even have the draft permit, the negative declaration or the coastal zone review yet.

If you have not planned a public hearing please do so on this important matter.

Thank you for your attention to this matter.

Sincerely,
Dwain Wilder
Editor, *The Banner*
editor@thebanner.news https://www.thebanner.news

A-442

EMAIL EXCHANGE BETWEEN DEC AND DWAIN WILDER, DATED OCTOBER 2018

To: dwain@bearmeadow.com[dwain@bearmeadow.com]
From: dec.sm.InitialWWPermits[/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=906F209F3BC44BC08DF3E1A372D2D560-DEC.SM.INIT]
Sent: Fri 10/5/2018 2:11:51 PM Eastern Daylight Time
Subject: RE: Ravenswood Water Withdrawal Application 2-6304-00024/00056
Attachment: Application.WWA.WWA011660._.Ravenswod_WW_Permit_Submittal.pdf
Attachment: RavenswoodNOIAwResubmittal.pdf
Attachment: Ravenswood feaf part3Final.signed.pdf

Dear Mr. Wilder,
Please find attached the Original Ravenswood Initial Water Withdrawal Application, The notice of incomplete application and resubmittal and the Negative Determination of Significance for the action.
Sincerely,
Kent P. Sanders
Deputy Chief Permit Administrator
Div. of Environ. Permits – NYSDEC
625 Broadway, Albany

From: Dwain Wilder [mailto:dwilder@rochester.rr.com]
Sent: Thursday, October 04, 2018 11:03 AM
To: dec.sm.DEPPermitting <DEPPermitting@dec.ny.gov>
Subject: Ravenswood Water Withdrawal Application 2-6304-00024/00056

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Mr. Sanders,

Please send a link or attach a pdf file of the permit application regarding Ravenswood Water Withdrawal Application 2-6304-00024/00056, as cited in DEC ENB
https://www.dec.ny.gov/enb/20181003_reg2.html#263040002400056

Thank you for your attention to this matter, and for any help you can give to help further inform New York citizens regarding this massive water withdrawal proposal. It seems, on its face, unlikely that withdrawing 1.5 billion gallons of water/day from the East River and returning it at a higher temperature would not have any significant environmental impact on riparian and estuarial life.

Sincerely,
Dwain Wilder
Editor, *The Banner*
editor@thebanner.news https://www.thebanner.news

A-443

RAVENSWOOD WATER WITHDRAWAL PERMIT APPLICATION SUPPLIED TO DWAIN WILDER, DATED MAY 31, 2013 [A-443 - A-477]

New York State Department of Environmental Conservation

Water Withdrawal Application Supplement WW-1

May 2013

Pursuant to 6 NYCRR Part 601: http://www.dec.ny.gov/regs/4445.html

READ THE INSTRUCTIONS ON PAGE 2 BEFORE COMPLETING THIS FORM

FOR DEPARTMENT USE ONLY
Application No.
WWA Number

1. APPLICANT NAME TC Ravenswood LLC

2. FACILITY NAME Ravenswood Generating Station

3. PROJECT TYPE ☑ Water Withdrawal ☐ New Public Water Supply Service Area or Extension ☐ Land Acquisition for Public Water Supply ☐ Change in Use of Existing Water Withdrawal

4. WATER USE TYPE ☐ Public Water Supply ☐ Bottled/Bulk Water ☐ Commercial ☐ Cooling ☐ Industrial ☐ Institutional ☐ Mine Dewatering ☐ Oil/Gas Production ☑ Power Production ☐ Recreational ☐ Other:

5. WITHDRAWAL TYPE ☑ Existing ☐ New If this is an existing public water supply, provide the most recent WSA or WWA Number:

If other than public water supply, list other existing or pending related DEC permits (e.g., SPDES, Mining, Dam):
SPDES NY 0005193

6. WATER WITHDRAWAL SOURCE ☑ Surface Water Water Body Name(s) East River
☐ Groundwater Nearest Surface Water Body Distance From Well (in feet)

7. WATER SUPPLY TO OTHER STATES Does this project involve the transport of any fresh water of NYS through pipes, conduits, ditches or canals to any other state?
☑ No ☐ Yes, describe:

8. TRANSPORTATION OF WATER BY VESSEL Does this project involve the transport by vessel of more than 10,000 gallons per day of surface water? (Excludes ballast water necessary for normal vessel activity. A vessel is defined as any floating craft propelled by mechanical power.) ☐ Yes ☑ No

9. WATER WITHDRAWAL AMOUNTS This project involves the withdrawal of up to: 1,534,752,00 gallons per day Source Name East River

Does the project include a MAJOR DRAINAGE BASIN TRANSFER of water? See map at http://www.dec.ny.gov/lands/56800.html ☑ No ☐ Yes

If yes, ☐ Existing ☐ New From Basin To Basin

10. *REQUIRED EXHIBITS (6 NYCRR Part 601.10)* *Provide the names of the required exhibits applicable to this withdrawal:*

601.10(a) *PROJECT AUTHORIZATION FOR PUBLIC WATER SUPPLY SYSTEMS (e.g. Resolutions, Ordinances)*	Not Applicable	***601.10(h)*** *ACQUISITION MAPS (Map of any lands to be acquired as part of project)*	Not Applicable
601.10(b) *GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary)*	See Figure # 1	***601.10(i)*** *WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH)*	Not Applicable
601.10(c) *WATERSHED MAPS (Topographic map with location of withdrawal and any return flow or interbasin diversions).*	See Figure #'s 1 & 2	***601.10(j)*** *TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards)*	Not Applicable
601.10(d) *CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval)*	Not Applicable	***601.10(k)*** *PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions)*	See Section (K)
601.10(e) *ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.)*	See Appendix A	***601.10(l)*** *CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority)*	Not Applicable
601.10(f) *WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form)*	See Appendix B	***601.10(m)*** *TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.)*	See Section M
601.10(g) *ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report)*	See Appendix C	***601.10(n)*** *GREAT LAKES-ST. LAWRENCE RIVER WATER RESOURCES COMPACT PROCESS REQUIREMENTS (Only applicable to Public Water Supply diversions from Great Lakes Basin - no other diversion types are allowed).*	Not applicable

Clear Form

Applicant Signature

Name Kenneth Yager Date 5/31/2013

Title Compliance Manager

NYCRR Part 601
Water Withdrawal Permit Application
601.10 Requirements

(a) Project Authorization
The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. The current facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. The water withdrawal system is not a public supply system and is not applicable to the requirements set forth in subpart (a).

(b) General Map
See Drawing # 1-Ravenswood Generating Station General Map.

(c) Watershed Maps
See Drawing # 2- Watershed maps

(d) Contract Plans
No contract plans exist for the water withdrawal system. The existing water withdrawal system was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility.

(e) Engineer's Report
See Appendix A- Engineer's Report

(f) Water Conservation Program
See Appendix B-Water Conservation Form

(g) Annual Water Withdrawal Report
See Appendix C- 2012 Water Withdrawal Report

(h) Acquisition Maps
The water withdrawal system is an existing system that was commissioned in 1963 and is currently used to supply once through cooling water for an electric generating facility. Land acquisition maps are not required for the existing water withdrawal system.

(i) Water Analyses
The water withdrawal system is not a public supply system and chemical and bacteriological analyses are not performed. Therefore, Ravenswood is not applicable to the requirements set forth in subpart (i).

(j) Treatment Methods

The water withdrawal system is not a public supply system required to meet Department of Health standards and is therefore not applicable to the requirements set forth in subpart (j).

(k) Project Justification

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for Units 10, 20 & 30 is currently withdrawn from the East River through intake structures and is routed through steam surface condensers.. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed to back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River The siting of the electric generating facility along the East River is ideal due to the plentiful surface water supply for once through cooling. The East River's mean tidal flow is about 240,000 cubic feet per second (1.79 million gallons per second) allowing for Ravenswood to adequately and reasonably withdraw and return the necessary water for cooling.

The installation of variable frequency drives (VFD) on the circulating water pumps (CWP) has allowed for vast conservation improvements and an overall reduction in water withdrawn from the East River. The installation of VFDs has reduced electricity consumed by the CWP while in VFD operation due to the slower motor speeds. More importantly, the installation of VFDs has led to a considerable overall reduction in the volume of surface water withdrawn from the East River. The upgrades performed on the CWPS have directly made the water withdrawal system an environmentally sound and economically feasible project. In addition to the conservation of water withdrawn from the East River, the VFDs installed on the CWPs have also helped reduce the overall adverse environmentally impact associated with the impingement and entrainment of marine organisms. The volume of water withdrawn is directly proportional to the number of organisms impinged and entrained. A flow reduction achieved by the use of variable speed pumps has a proportional reduction to impinged and entrained organisms. The installation and implementation of VFDs is projected to reduce impingement mortality and entrainment of organisms by 90% and 65% from baseline, respectively. The current water withdrawal system utilized at Ravenswood complies with the various federal, state, and local laws.

(l) Canal Withdrawal Approval

The water withdrawal system is not located on a canal and is therefore not applicable to the requirements set forth in subpart (l).

(m) Transmittal Letter

(1)

Applicant:
TC Ravenswood LLC
Kenneth Yager
38-54 Vernon Blvd.
Long Island City, NY 11101

Engineer:
Erwin Schaub, P.E.
38-54 Vernon Blvd.
Long Island City, NY 11101

(2) If required, a public venue will be determined at the appropriate time.

(3) Publications in local newspapers for facility permits are published in the 'Daily News'.

(n) Great Lakes-St. Lawrence River Basin
The water withdrawal system is not located within the Great Lakes or St. Lawrence River basin and is therefore not applicable to the requirements set forth in subpart (n).

Appendix A

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

Professional Engineer's Certification

Name: Erwin Schaub
Firm: TC Ravenswood LLC
Address: 38-54 Vernon Blvd
Long Island City, New York 11101

Signature: _____

NYCRR Part 601
Water Withdrawal Permit Application
Engineer's Report

1. **General description of the project and the engineering features of the existing water withdrawal system.**

The Ravenswood Generating Station is located in Long Island City, New York and is situated along the east bank of the upper East River, directly across from Roosevelt Island. The facility is comprised of three conventional steam electric generating units (Units 10, 20 & 30), a combined cycle unit (unit 40), and simple cycle gas turbine units. Cooling water for units 10, 20, and 30 is withdrawn from the East River through intake structures and is routed through steam surface condensers. Low pressure steam is exhausted from the low pressure turbines and is directed to the condenser where it passes over the tubes and is condensed back to water. The cooling water is then returned to a common discharge canal, which is returned to the East River. Unit 40 and the simple cycle gas turbines do not utilize a once through cooling water system.

Condenser cooling water and service water for units 10, 20 and 30 is drawn into a protected embayment and intake structure. Units 10 and 20 each have four water intakes bays; two bays provide water to each circulator. Unit 30 has six intake bays; three bays provide water to each circulator. Wooden debris skimmers (ice breakers) are located at the entrance to each intake bay to prevent floating material from entering the bays. The continuous traveling water screens (3/8 inch square mesh) are equipped with high pressure (screen wash) spray systems to wash off impinged fish, crabs, and debris from the riverside of the screen. The wash water and impinged material is then diverted back to the East River though low stress fish return piping.

Each of the three units is equipped with two motor driven circulating water pumps. At Units 10 and 20; each pump has a rated capacity of 107,000 gallons per minute (GPM). Unit 30 pumps are rated at 268,500 GPM. Each motor has been retrofitted with variable frequency drives (VFD). A VFD is a device that rectifies 60 cycle AC current to direct current. Then using insulated gate bipolar transistors (IGBT's), converts the DC supply to a square wave alternating supply at adjustable frequency. This causes the motor to operate at variable speeds. The VFD allows the facility to decrease the circulating water pump motor speed and consequently proportionately decrease the circulating water flow. Operation at less than full flow capacity directly relates to conservation.

A service water system (Low Pressure Salt Water Pumps) also provides water from the East River for cooling small equipment throughout the facility and

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turbine-generator cooling. Units 10 and 20 each have a Low Pressure Salt Water Pump with a shared spare and unit 30 has three Low Pressure Salt Water Pumps.

2. **A listing of all existing sources of water supply, including wells, surface withdrawals, and any purchases sales or transfer of water.**

Existing Source	Water Supply
11 Circulating Water Pump	Surface-East River
12 Circulating Water Pump	Surface-East River
21 Circulating Water Pump	Surface-East River
22 Circulating Water Pump	Surface-East River
31 Circulating Water Pump	Surface-East River
32 Circulating Water Pump	Surface-East River
11 Low Pressure Salt Water Pump	Surface-East River
21 Low Pressure Salt Water Pump	Surface-East River
1-2 Low Pressure Salt Water Pump	Surface-East River
31 Low Pressure Salt Water Pump	Surface-East River
32 Low Pressure Salt Water Pump	Surface-East River
33 Low Pressure Salt Water Pump	Surface-East River
Unit 10, 20, & 30 Screen Wash Pumps (5)	Surface-East River
Water Meter House 1, 2, 3 & 4	Purchase - NYCDEP

3. **Evaluation of a practicable alternative to the proposed source shall include an analysis of increased water conservation measures as a means to reduce or eliminate the need for the proposed source.**

Cooling water is a critical component to the production of electricity at the station. Total elimination of cooling water is not a practical alternative. However, conservation methods are a viable option that has been implemented at the facility in order to reduce cooling water withdrawn from the East River. Circulating Water Pumps (CWP) have been retrofitted with VFDs to allow for reduced surface water withdrawal at reduced generation loading and reduced cooling water temperatures. An analysis of the first ten months of cooling water withdrawal from the East River was performed on the CWPs with VFD operation. The average hourly CWP GPM was calculated by utilizing continuously recorded motor speeds. The hourly CWP GPM was then compared to average CWP GPM if VFDs had not been installed (full flow operation). The difference between the two averages was then used to determine the water conservation directly related to the retrofit of the CWP on a daily basis for all units. Monthly averages are shown below. The overall reduction in surface water withdrawn from the East River is significantly reduced with the use of VFD operation of the CWPs. The conservation methods utilized at Ravenswood have directly led to substantial conservation of surface water and have been adequately implemented.

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	Unit 10			Unit 20			Unit 30			
	Unit 10 CWP AVG. GPM with VFD Operation	Unit 10 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 20 CWP AVG. GPM with VFD Operation	Unit 20 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	Unit 30 CWP AVG. GPM with VFD Operation	Unit 30 CWP AVG. GPM NO VFD	AVG. Withdrawal Conservation (GPD)	AVG. Water Withdrawal Conservation All Units (GPD)
July 2012	151,030	179,484	40,973,475	157,429	189,839	46,670,534	338,158	450,387	161,609,894	249,253,904
August 2012	155,883	202,536	38,956,157	167,411	189,839	32,295,838	165,404	225,194	86,096,285	157,348,281
Sept 2012	121,097	168,290	27,961,262	158,758	175,253	23,753,039	22,658	24,587	2,777,300	54,491,601
October 2012	168,933	193,290	35,074,172	52,196	65,581	19,274,255	364,899	537,000	247,826,058	302,174,485
November 2012	103,902	189,072	8,469,802	131,006	160,890	43,032,785	325,356	389,758	92,738,741	144,241,328
December 2012	214,000	214,000	0	43,808	55,226	16,441,232	0	0	0	16,441,232
January 2013	107,490	214,000	34,087,195	86,162	177,103	114,502,914	0	0	0	148,590,109
February 2013	24,563	34,516	10,485,108	2,779	5,713	3,693,642	77,542	138,581	87,895,382	102,074,132
March 2013	0	0	0	123,081	186,387	91,160,256	0	0	0	91,160,256
April 2013	9,107	20,710	17,264,262	95,504	192,400	139,530,196	0	0	0	156,237,546

4. **For public water supply systems, the present and projected population of the water service area and the present and projected consumption rate.**

   Not applicable to Ravenswood Generating Station.

5. **For public water supply systems, the radius of land owned or controlled for wellhead protection surrounding any proposed groundwater withdrawal, or the water quality classification and a copy of any Department of Health Watershed Rules and Regulations for any proposed surface withdrawal.**

   Not applicable to Ravenswood Generating Station.

6. **The general-character and extent and essential design features of proposed controlling, diverting or regulatory works.**

   Implementation of site specific procedures on the operation of the CWPs has been employed at the site. Personnel are trained in the operation of the equipment and are instructed on CWP speeds for maximum conservation of water withdrawal.

7. **The proposed instantaneous and maximum daily rates of withdrawal; the existing and projected daily average, daily maximum, and 30 day maximum water demands of the withdrawal system;**

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2012 Maximum daily withdrawal rate	1,534.75 MGD
2012 Existing Daily Average	486.49 MGD
Projected Daily Average	486.49 MGD
Daily Maximum	1,489.70 MGD
2012 30 Day Maximum Demand	27,933.85 MG30DAY

8. **When applicable, any fire suppression flows which can be supplied, including the duration for which such flows can be maintained.**

   Water for fire suppression is fed from the city water supply (NYC DEP). The city water system supplies the suction to fire pumps which discharge to various fire protection systems located at the facility.

Fire Protection System	Flow
Dock Foam Fire Suppression System	3,000 GPM
GT Foam Fire Suppression System	1,000 GPM
Unit 40 Fire Suppression system	3,000 GPM
10, 20 & 30 Standpipe Booster Pump	750 GPM
06 Tank Foam Fire Suppression System	500 GPM
Rainey Foam Fire Suppression System	1,000 GPM
10/20 Transformer Fire Suppression System	750 GPM

9. **For public water supply systems, the location, extent and character of proposed treatment.**

   Not applicable to Ravenswood Generating Station.

10. **For groundwater sources, well drinking logs, monitoring well locations and pump test data and analyses of results.**

    Not applicable to Ravenswood Generating Station.

11. **For surface water sources, information on rainfall, stream flows and classifications, contributing watershed size, location of nearby USGS stream gauges, other upstream water withdrawals, safe yield analysis or passby flow calculations and proposed withdrawal methods including intake structure design and screening.**

    The Hudson-Raritan Estuary System is a coastal plain estuary dominated by the drowned river valley of the Hudson River estuary. The estuary system extends 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The freshwater tributary to the estuary system drains a total of about 16,300 square miles. Seasonal and inter-annual variation of stream flow of the Hudson River recorded at Green Island, New York, near Troy (USGS gage 0 1358000) is characterized by high flow during March through May, with monthly mean peak flow of 32,719 cubic

feet per second (CFS). The mean oscillating tidal flow in the East River reaches about 240,000 CFS. The estuary system is comprised of all tidally inundated areas within these drainage basins including tidal straights; Harlem and East Rivers. The East River extends 16 miles from the battery to Throgs Neck and Willets Point at the Long Island Sound. The tidal straight is divided into distinct hydrological sections. The East River is narrow and bulk-headed along most of the length, and is divided into east and west channels where it passes Roosevelt Island. The station is located on the east channel from which the station withdraws its cooling water. Maximum river velocities are high, reaching 5.0 ft/sec. The station utilizes a once through cooling water system. The intake structures are recessed 60 feet inside the bulkhead line. Units 10 and 20 each have four water intake bays that measure 11.2 feet wide and by 17 feet deep at mean low water (MLW). Unit 30 has six intake bays that each measure 11.2 feet wide by 24 feet deep (MLW). The existing technology includes 14 vertical continuous traveling screens outfitted with 3/8 inch square mesh and high pressure wash to remove impinged material.

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Appendix B

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WATER CONSERVATION PROGRAM FORM

NON-POTABLE WATER SUPPLIES

TO BE COMPLETED AND SUBMITTED AS PART OF A NYSDEC WATER WITHDRAWAL PERMIT APPLICATION
***SEE PAGE 6 FOR FURTHER INTRODUCTION AND INSTRUCTION REGARDING THIS FORM**

If your water facility already has its own written water conservation program, you may submit it as a supplement to this WCPF. If your system is new, indicate the water conservation measures that will be taken when the system is completed (e.g. All sources of supply will be 100% metered).

I. GENERAL SYSTEM INFORMATION

Facility Name: Ravenswood Generating Station		**DEC No.**	
Street Address: 38-54 Vernon Blvd		**WWA No.**	
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Contact Name: Kenneth Yager			
Street Address: 38-54 Vernon Blvd			
Post Office Box:	**County:** Queens	**State:** New York	**ZIP:** 11101
Applicant's Telephone: 7,187,062,702		**Contact's Telephone:** 7,187,062,702	

II. SOURCES OF WATER SUPPLY

[State capacity and withdrawal in gallons per minute (**gpm**), gallons per day (**gpd**), or million gallons per day (**mgd**).]

Source Type: S = Surface supply, G = Ground supply, P = Purchased supply
Source Status: R = Regular use, S = Standby use, E = Emergency use, I = Inactive, D = Decommissioned

Source Name	Source Type	Source Status	Tested Capacity	Actual Current Withdrawal	Start-up Year
East River	S	R	1,534.75 MGD	486.49 MGD	1963
NYCDEP	P	R		0.455 MGD	

III. WATER SOURCES AND METERING

For unmetered systems, please provide your best estimates for water production and/or consumption.

Are all sources of supply (including major interconnections) equipped with master meters?	No
How often are they read? Service water meters are read monthly.	
How often are they calibrated? Meters are not calibrated at this time	
Are there secondary meters located within the facility or system? Yes	If yes, how many? 15
Describe secondary metering system if applicable: All incoming city water is metered by a NYC DEP service water meter. Inside the plant various secondary water meters are installed to determine water usage throughout the site. Surface water is withdrawn from the East River and flow rate is determined by pump speed.	

Water Production for Calendar Year		
Total metered water production:	177,570,461,410	gallons per year
Average day production (total/days of use):	486,494,415	gallons per day
Maximum day production (largest single day):	1,489,700,000	gallons per day

What are your future goals and schedule for water metering?
City water connections from the NYC DEP water system are currently metered to determine the total water purchased. Multiple water meters are installed throughout the facility and are read monthly to determine water usage at different parts of the steam-electric generation process. Currently, primary and secondary water meters are being reviewed to determine the best practice for calibration of these meters.

Best Management Practices:

** 100% metering of all sources of water supply.*

** Source and secondary meters must be tested and calibrated annually.*

IV. WATER AUDITING

The process of conducting an audit of a water system will enable the collection of data on how much and where water enters, leaves and is used within a facility or system. Another goal of a water audit is to estimate unaccounted-for water use, which includes: Losses through leaks, improperly-functioning or inoperative system controls and unmetered sources of water. The water audit provides a system with a baseline against which water-conservation measures can be evaluated.

Do you conduct a water audit at least once each year? No If yes, please submit a copy of your latest audit in addition to completing the following section.

** Water Audit for Calendar Year

Total metered water production (from previous section)			Total	177,570,461,410	
Sources of Water Use		**Metered or Estimated?**			**% of Total**
Process Water		Metered	subtract	166,347,970	0.09
Cooling Water		Estimated	subtract	176,711,185,540	99.52
Wash Water			subtract		
Sanitary			subtract		
Incorporation into Product			subtract		
Irrigation			subtract		
Other	HP wash water for screens	Estimated	subtract	692,928,000	0.39
Other			subtract		
TOTAL UNACCOUNTED-FOR WATER			Sub-total	0	0
Unaccounted-for water breakdown	Meter under-registration		subtract	0	0
	Unrepaired leakage		subtract	0	
	Other:		subtract		
** Water measurement and accounting techniques are available in NYSDEC's Water Conservation Manual, http://www.dec.ny.gov/lands/39346.html				0	

What are your future goals for water system auditing?
Continuation of monthly water meter readings by Performance Engineering Group. Water meter readings and site water usage is analyzed and compared to historical data.

Best Management Practices:

** At least once each year, a system water audit must be conducted using metered water production and consumption data to determine unaccounted-for water.*

** Keep accurate estimates of unmetered water use.*

** Quantify all authorized water uses by consumption categories.*

V. LEAK DETECTION AND REPAIR

Do you regularly survey your facility for leakage? No
Are leaks repaired in a timely manner? Yes
If applicable, do you regularly survey underground piping for water leakage? No

Total length of underground piping	Percent of piping surveyed each year	Length of pipe surveyed each year	Listening equipment used	Year of last survey	Number of leaks found	Number of leaks repaired

What are your future goals for water system leak detection and repair?
The site is continuously manned with personnel and water usage data is analyzed monthly. If a leak is detected in underground piping the leak is addressed as soon as possible.

Best Management Practices:

** Check any underground water distribution systems for leaks each year.*

** Fix every detectable leak as soon as possible.*

** Have an on-going system rehabilitation program.*

VI. WATER REUSE, RECYCLING AND DROUGHT PLANNING

Does your facility reuse or recycle primary use water? No If yes, describe process:
Does your facility use reclaimed rainwater, storm water runoff or wastewater? No If yes, describe process:
Describe any equipment or processes that promote the efficient use of water by your facility: Variable Frequency Drives (VFD) are installed on the Circulating Water Pumps (CWP). The CWPs withdraw surface water from the East River for cooling. VFDs allow for the pumps to operate at less than full speed operation at reduced loads and cooler water temperatures. The reduced speed directly correlates to reduced water withdrawal.
Does your system include storage tanks or ponds to meet short term water demands? Yes, demineralized water storage tanks are used.
Describe any actions that can be taken to reduce water use during times of drought: VFD operation of the CWP in order to reduce surface water withdrawal.

What are your future goals for recycling or reducing water usage? Continuing use of CWPs in VFD to reduce surface water withdrawal at reduced loads.

Best Management Practices:

** Reuse or recycle water whenever possible.*

** Employ efficient irrigation techniques*

** Develop a plan to reduce water use during times of drought.*

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VI. SIGNATURE PAGE AND DISCUSSION

Facility Name: Ravenswood Generating Station	WWA No.

Signature:	Signatory:
Title: Compliance Manager	Date: 5/31/2013

DISCUSSION:

Effective February 15, 2011, New York State Environmental Conservation Law (§ECL 15-1501) has required that all applications for a NYSDEC Water Withdrawal Permit include a water conservation program. This Water Conservation Program Form (WCPF) is a required submittal of all such applications.

The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation policy objectives and should be incorporated into your program development. Additional water conservation measures that are specific to your category of water usage should also be incorporated into your individual program.

Water withdrawal permit applicants can consult the NYSDEC publication entitled "A Survey of Methods for Implementing and Documenting Water Conservation in New York".

The American Water Works Association (AWWA) is also an excellent source of information regarding water conservation practices and procedures. Information ranging from technical manuals to online resources and tools can be found at http://www.awwa.org.

Clear Entire Form

Appendix C

New York State Department of Environmental Conservation

Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by March 31 each year

Prior to filling out this form please read the instructions on last page

(This form not for Agricultural Facilities)

Section 1

Reporting Year: 2012

Facility Name: Ravenswood Generating Station Facility Street Address: 38-54 Vernon Boulevard

City: Long Island City Zip: 11101 Town: County: Queens

Contact Name: Gregory Pryor Email: gregory_pryor@transcanada.com Telephone: (718) 706-2863

Source Name	Source Type	Well Depth	Max Rate	Units
East River	S	Ft	1,514.5	MGD
NYC DEP	P	Ft		GPM
		Ft		
		Ft		
		Ft		
		Ft		
		Ft		
		Ft		
		Ft		

If an interbasin diversion occurs, check this box ☐ and enter information in Section 3

Average Day Withdrawal	Maximum Day Withdrawal	Permitted Withdrawal
486 MGD	1,489.7 MGD	MGD

Submitted by: Gregory Pryor Title: Environmental Specialist Date: 1/11/2013

Water Withdrawal Category (check one)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☐ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production

Power Production:

- ☒ Fossil Fuel
- ☐ Nuclear
- ☐ Other Pwr:

- ☐ Public Water Supply

Recreation:

- ☐ Golf Course
- ☐ Snow Making
- ☐ Other Rec:

- ☐ Other:

Reset Form Print Form Submit by Email

If you do not receive a confirmation email, please contact AWQRSDEC@gw.dec.state.ny.us or 518 402-8086.

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AR-0000433

Section 2

Calculation Method: P

M = Metered readings. W = Flow through a weir or flume. P = Flow through a pipe or pump run time. E = Estimated.

UNITS: *Must be in gallons per month*	January	February	March	April	May	June
Withdrawn	4,180,896,000	2,783,808,000	11,009,952,000	8,614,800,000	10,453,248,000	14,111,136,720
Transferred / Imported	9,552,777	8,833,832	10,944,208	14,300,667	11,448,093	15,332,994
Consumed	8,160,434	7,446,808	8,048,021	12,381,599	9,174,934	13,485,679
Returned	4,165,584,343	2,778,859,024	10,952,368,187	8,580,431,068	10,412,897,159	14,065,752,035
Diversions In / Out if any	0	0	0	0	0	0

	July	August	September	October	November	December
Withdrawn	29,130,912,720	21,968,064,000	13,070,304,000	26,265,312,000	24,259,392,000	11,556,288,000
Transferred / Imported	19,580,467	15,648,019	10,588,747	18,948,492	19,466,268	11,703,408
Consumed	16,929,661	13,191,527	8,628,313	15,356,435	16,572,638	10,114,834
Returned	29,034,466,581	21,891,608,492	13,027,912,434	26,176,744,057	24,183,433,630	11,516,980,574
Diversions In / Out if any	0	0	0	0	0	0
Describe location of returned water	Water is returned to the East River via SPDES outfalls 001, 008, 009, and 010. These points are annotated as discharges 1-4 respectively on the attached map.					

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AR-0000434

Section 3

General Map Required

Please submit a map showing location of all withdrawals and any points of return flow. Label all points. **A map is not necessary if one was submitted in a previous year and no changes have occurred.** Precise locations will remain confidential.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. For electronic maps a suggested website is described below:

(1) Go to the USGS National Map site [http://usgs01.srv.mst.edu/store3/digital_download/mapping_ap.jsp].
Type the address of the agricultural facility into the search box.
(2) Zoom in and use any of the map-type choices to best confirm your location.
(3) Designate water withdrawal locations by clicking on the map to add a marker(s).
(4) For surface water withdrawals, use the "Topo" tab.
(5) Add a marker to designate the location of any related dams, weirs, or diversion structures.
(6) Print. Manually label the name of each marked source.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290.
- Print, scan and email to awqrsdec@gw.dec.state.ny.us.
- Copy electronically and email to awqrsdec@gw.dec.state.ny.us.

NOTE: Precise locations will be kept confidential.

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, click the link below, highlighted in blue. Enter basin ID where requested. Use drop down menu. Describe location of originating and receiving sites (e.g. Town water intake at north end of Pleasant Lake to southwestern corner of Stony Reservoir near Route 12).

Originating Major Drainage Basin http://www.dec.ny.gov/lands/56800.html	Receiving Major Drainage Basin http://www.dec.ny.gov/lands/56800.html
Enter Basin ID here:	Enter Basin ID here:
Originating Site Description:	Receiving Site Description:

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Section 4

Water Conservation and Efficiencies

All permitted water withdrawal systems must have a Water Conservation Program.

Section A: For Permitted Public Water Supply Facilities Only - All others use Section B

Are all sources of supply including major interconnections equipped with master meters? ☐Yes ☐No

What percentage of your system is metered? ____ %. Residential charge per 1000 gallons of water: $ ____

How often were customer meters read this past year (e.g. quarterly, yearly)? ____

Number of water service connections: ____ Total population served: ____

How many customer meters were recalibrated and/or replaced in the past year? ____

Miles of pipe in water distribution system: ____ Length of pipe replaced in the past year: ____ ____

Miles of pipe on which leak detection was performed using sonic listening equipment: ____ Type of equipment used: ____

How many system-wide water audits were performed in the past year? ____

What percentage of the water withdrawn was not billed to customers? ____ %. Lost to distribution system leakage? ____ %

Was information about household water saving devices and ways to reduce water use distributed to residential customers? ☐Yes ☐No

Was water conservation information about promoting recycling and reuse distributed to industrial and commercial customers? ☐Yes ☐No

Do you have lawn sprinkling time restrictions (e.g. odd/even days) during periods of peak demand? ☐Yes ☐No

Do you have a plan that takes progressive steps to further reduce outdoor water use during drought conditions with an ordinance or procedure to assure compliance? ☐Yes ☐No

Please review your permit(s) for any specific water conservation conditions and report below on progress made in past year.

Section B: Water Withdrawal Reporting and Registered Facilities (see permitting schedule in **NYCRR Part 601.7**)

Are all sources of supply including major interconnections equipped with master meters? ☐Yes ☒No

How often were master meters read in the past year? Monthly

How often were master meters calibrated in the past year? 0

Are there secondary meters located within the facility or system? ☒Yes ☐No

Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station has conducted major capital upgrades on the circulating water system in order to retrofit circulating water pumps with variable speed drives and vacuum priming systems to allow for variable speed operation. The variable speed operation allows for reductions in water use during periods of reduced load, cool weather conditions, or when full circulating water flow is not required. The circulating water pumps take suction off the East River and provide once through cooling water for the condensers.

Section 5	Instructions / Definitions
Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled. "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased. Use drop down menu.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn (e.g., for a public water supply 365 million gallons/365 days = 1 mgd).
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Permitted Rate	If unknown, contact NYSDEC at AWQRSDEC@gw.dec.state.ny.us or 518-402-8182.
Calculation Method	M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. E = estimated.
Withdrawn	Amount of water removed from all sources.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers.
Returned	Amount of water discharged to a water treatment system or discharged back to the environment.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form (labeled "Click Here To Determine Basin ID") and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

Appendix D

New York State

JOINT APPLICATION FORM

For Permits/Determinations to undertake activities affecting streams, waterways, waterbodies, wetlands, coastal areas and sources of water withdrawal.

You must separately apply for and obtain separate Permits/Determinations from each involved agency prior to proceeding with work. Please read all instructions.

US Army Corps of Engineers (USACE)

APPLICATIONS TO

1. NYS Department of Environmental Conservation

Check all permits that apply:

- ☐ Stream Disturbance
- ☐ Excavation and Fill in Navigable Waters
- ☐ Docks, Moorings or Platforms
- ☐ Dams and Impoundment Structures
- ☐ 401 Water Quality Certification
- ☐ Freshwater Wetlands
- ☐ Tidal Wetlands
- ☐ Coastal Erosion Management
- ☐ Wild, Scenic and Recreational Rivers
- ☑ Water Withdrawal
- ☐ Long Island Well
- ☐ Aquatic Vegetation Control
- ☐ Aquatic Insect Control
- ☐ Fish Control
- ☐ Incidental Take of Endangered/Threatened Species

☑ I am sending this application to this agency.

2. US Army Corps of Engineers

Check all permits that apply:

- ☐ Section 404 Clean Water Act
- ☐ Section 10 Rivers and Harbors Act
- ☐ Nationwide Permit(s) - Identify Number(s): _____

Preconstruction Notification - ☐ Y / ☐ N

☐ I am sending this application to this agency.

3. NYS Office of General Services

Check all permits that apply:

- ☐ State Owned Lands Under Water
- ☐ Utility Easement (pipelines, conduits, cables, etc.)
- ☐ Docks, Moorings or Platforms

☐ I am sending this application to this agency.

4. NYS Department of State

Check if this applies:

- ☐ Coastal Consistency Concurrence

☐ I am sending this application to this agency.

5. Name of Applicant (use full name)

TC Ravenswood LLC

Mailing Address: 38-54 Vernon Blvd.

Post Office City: Long Island City

State: NY Zip Code: 11101

Telephone (daytime): 718.706.2702

Email: Kenneth_Yager@transcanada.com

Applicant must be:

- ☑ Owner
- ☐ Operator
- ☐ Lessee

(check all that apply)

Taxpayer ID (If applicant is NOT an individual): 11-3484082

6. Name of Facility or Property Owner (if different than Applicant)

Mailing Address

Post Office City

State Zip Code

Telephone (daytime) Email

7. Contact/Agent Name

Kenneth Yager

Company Name: TC Ravenswood LLC

Mailing Address: 38-54 Vernon Blvd

Post Office City: Long Island City

State: NY Zip Code: 11101

Telephone (daytime): 718.706.2863

Email: Kenneth_Yager@transcanada.com

8. Project / Facility Name

Ravenswood Generating Station

Property Tax Map Section / Block / Lot Number: Block 357 Lot 1

Project Location - Provide directions and distances to roads, bridges and bodies of waters:

Ravenswood cooling water intakes located on the shoreline of the East River. North of the Queensboro Bridge and South of the Roosevelt Island Brdge.

Street Address, if applicable: 38-54 Vernon Blvd.

Post Office City: Long Island City State: NY Zip Code: 11101

Town / Village / City: Long Island City

County: Queens

Name of USGS Quadrangle Map: Central Park

Stream/Water Body Name: East River

Location Coordinates: Enter NYTMs in kilometers, **OR** Latitude/Longitude

NYTM-E	NYTM-N	Latitude	Longitude
		40 45' 41"	73 56' 39"

For Agency Use Only DEC Application Number: USACE Number:

JOINT APPLICATION FORM - PAGE 2 OF 2

Submit this completed page as part of your Application.

9. **Project Description and Purpose:** Provide a complete narrative description of the proposed work and its purpose. Attach additional page(s) if necessary. Include: description of current site conditions and how the site will be modified by the proposed project; structures and fill materials to be installed; type and quantity of materials to be used (i.e., square ft of coverage and cubic yds of fill material and/or structures below ordinary/mean high water) area of excavation or dredging, volumes of material to be removed and location of dredged material disposal or use; work methods and type of equipment to be used; pollution control methods and mitigation activities proposed to compensate for resource impacts; and where applicable, the phasing of activities. **ATTACH PLANS ON SEPARATE PAGES.**

The Ravenswood Power Station has three electric generating units that utilize once through cooling water intake structure. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condensor to condense exausted steam from the low pressure turbine. Water withdrawn is then return to the East River via SPDES permit NY 0005193. No modifications or maintenance to the water withdrawal system is proposed.

Proposed Use: ☐ Private ☐ Public ☑ Commercial	Proposed Start Date:	Estimated Completion Date:

Has Work Begun on Project? ☑ Yes ☐ No If Yes, explain.

The Ravenswood Generating station has been in operation since 1963.

Will Project Occupy Federal, State or Municipal Land? ☐ Yes ☑ No If Yes, please specify.

10. List Previous Permit / Application Numbers (if any) and Dates:

11. Will this project require additional Federal, State, or Local Permits including zoning changes? ☑ Yes ☐ No If yes, please list:

NYCRR Part 601 Water Withdrawal Permit

12. **Signatures.** If applicant is not the owner, both must sign the application.

I hereby affirm that information provided on this form and all attachments submitted herewith is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. Further, the applicant accepts full responsibility for all damage, direct or indirect, of whatever nature, and by whomever suffered, arising out of the project described herein and agrees to indemnify and save harmless the State from suits, actions, damages and costs of every name and description resulting from said project. In addition, Federal Law, 18 U.S.C., Section 1001 provides for a fine of not more than $10,000 or imprisonment for not more than 5 years, or both where an applicant knowingly and willingly falsifies, conceals, or covers up a material fact; or knowingly makes or uses a false, fictitious or fraudulent statement.

	Printed Name	Title	Date
Signature of Applicant	Kenneth A Yager	Compliance Mgr.	5/31/2013
Signature of Owner			
Signature of Agent			

For Agency Use Only **DETERMINATION OF NO PERMIT REQUIRED**

Agency Project Number _____

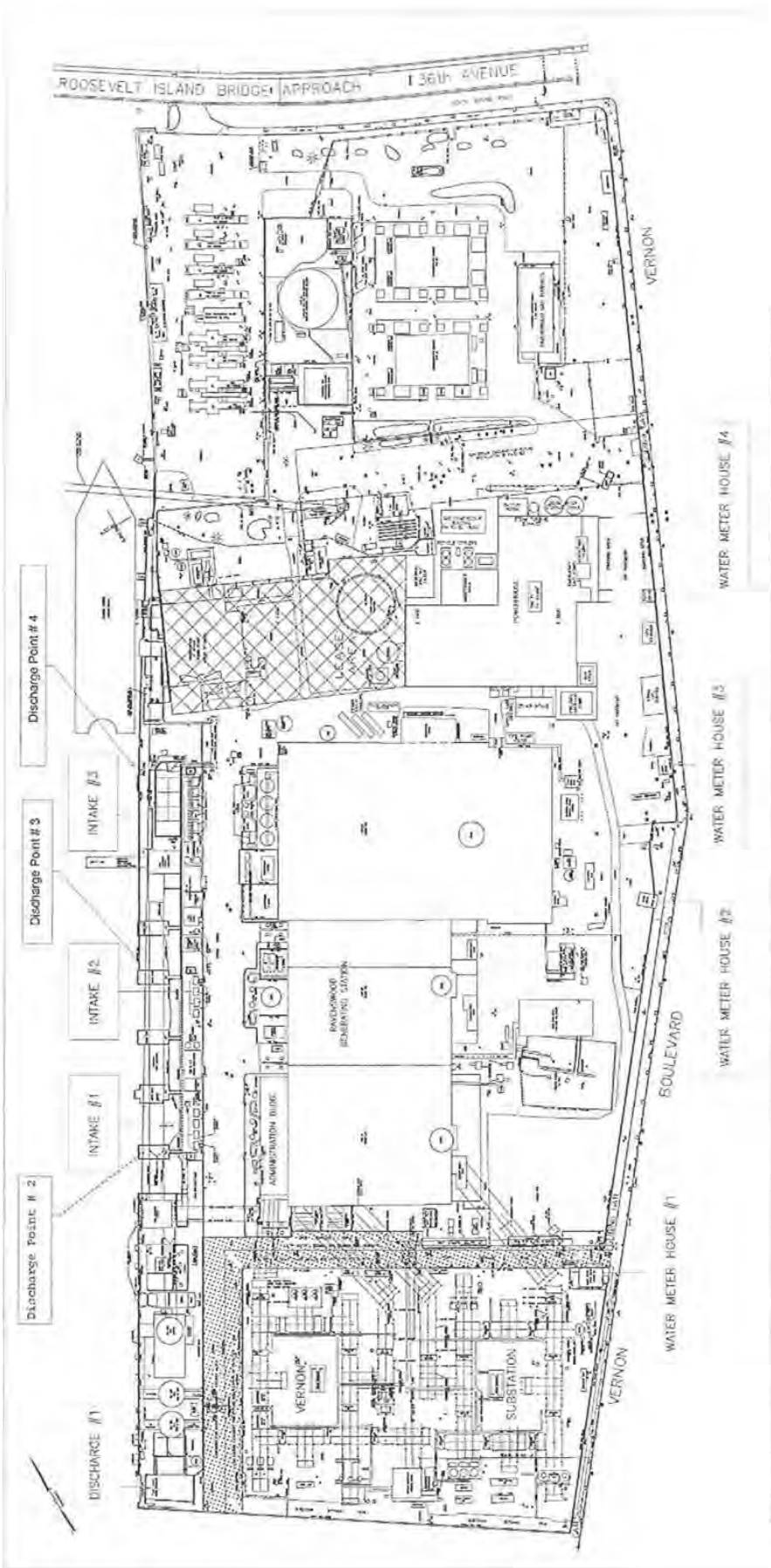
_____ (Agency Name) has determined that No Permit is required from this Agency for the project described in this application.

Agency Representative: Name (printed) _____ Title _____

Signature _____ Date _____

Figure 1

Ravenswood Generating Station
General Map 601.10(b)



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

Figure 2

Source: USGS Central Park, NY-NJ 2013

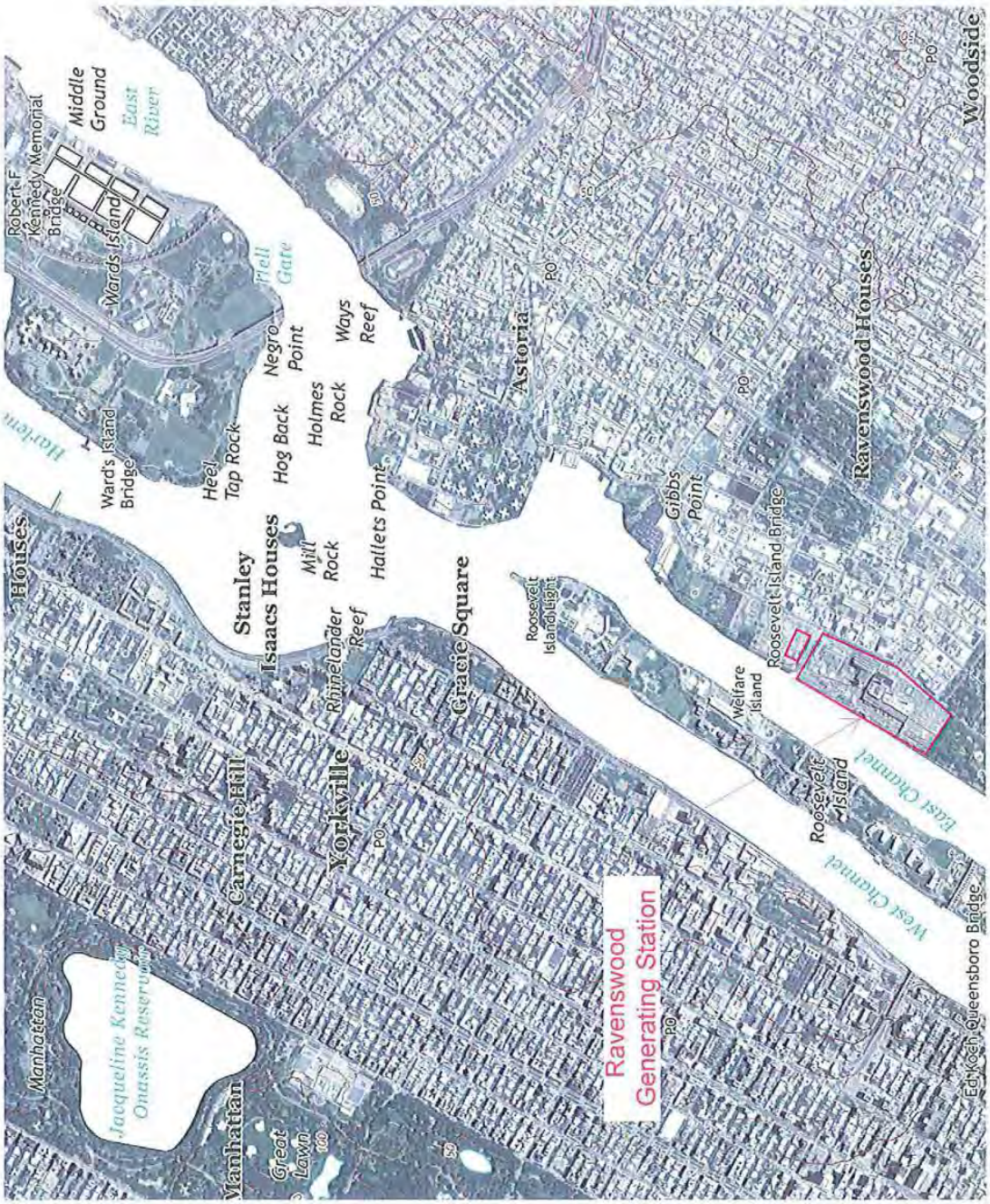

Ravenswood
Generating Station
Manhattan
Jacqueline Kennedy
Onassis Reservoir
Great
Lawn
Carnegie Hill
Yorkville
Houses
Stanley
Isaacs Houses
Rhinelander
Reef
Mill
Rock
Hallets Point
Gracie Square
Ward's Island
Bridge
Heel
Tap Rock
Hog Back
Holmes
Rock
Negro
Point
Ways
Reef
Hell
Gate
Robert F
Kennedy Memorial
Bridge
Middle
Ground
East
River
Wards Island
Astoria
Gibbs
Point
Roosevelt Island Light
Welfare
Island
Roosevelt Island Bridge
Roosevelt
Island
Ravenswood Houses
Woodside
East Channel
West Channel
Ed Koch Queensboro Bridge
PO

Figure 3

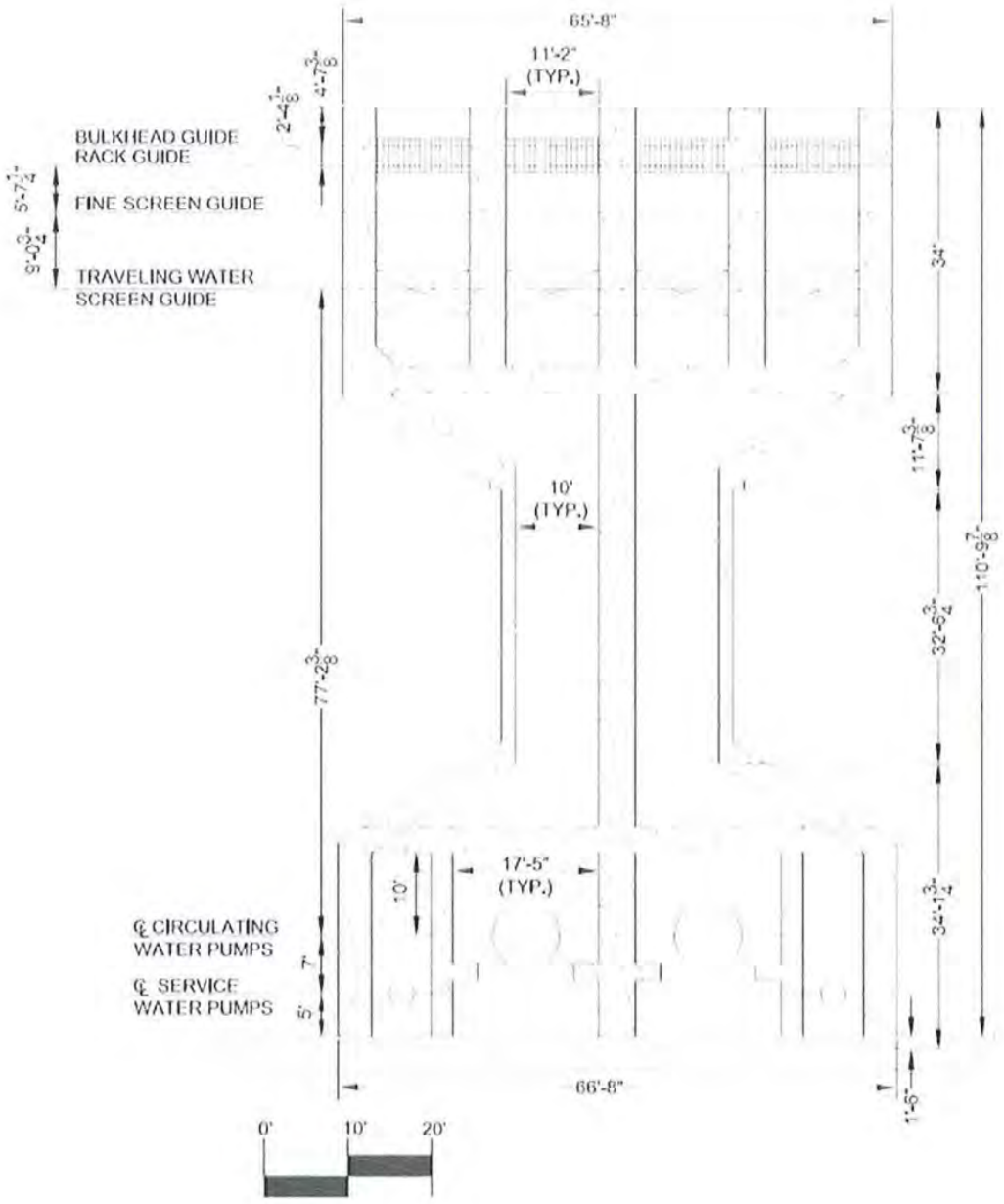


Figure 3 – Ravenswood Generating Station Unit 10 CWIS – Plan
(Unit 20 is Identical)

Figure 4

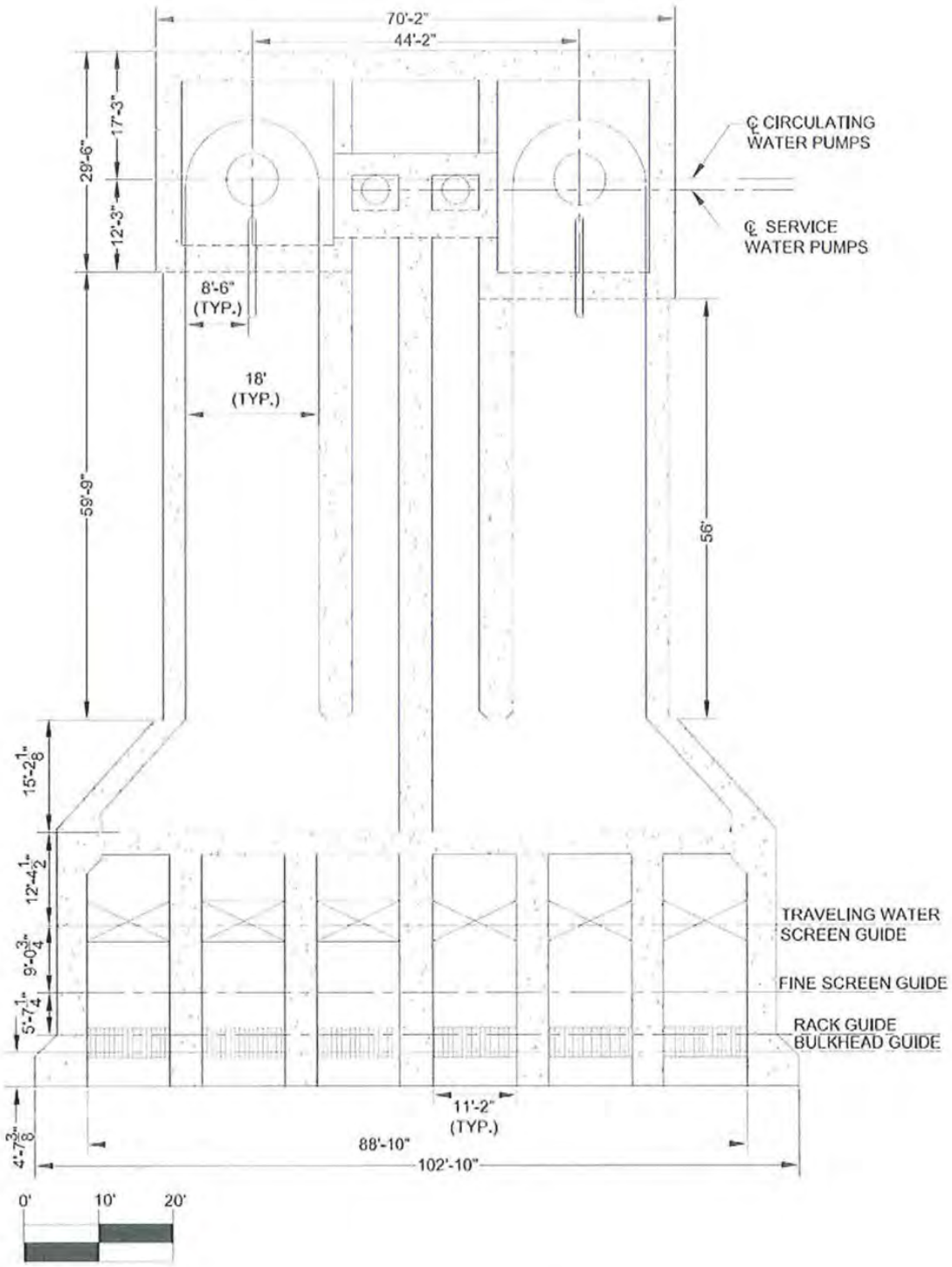


Figure 4 – Ravenswood Generating Station Unit 30 CWIS – Plan

A-478

COPIES OF DOCUMENTS WITH VARIOUS DATES SUPPLIED TO DWAIN WILDER
[A-478 - A-497]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits
625 Broadway, 4th Floor, Albany, New York 12233-1750
P: (518) 402-9167 I F: (518) 402-9168 I deppermitting@dec.ny.gov
www.dec.ny.gov

April 13, 2018

Tanja Grzeskowitz
Helix Generation LLC
38-54 Vernon Blvd.
Long Island City, NY 11101

Re: Notice of Incomplete Application for a Water Withdrawal Permit
Ravenswood Generating Station, DEC ID# 2-6304-00024/00054
Queens, Queens County

Dear Ms. Grzeskowitz,

Due to the outcome of recent litigation, the water withdrawal permit issued for the Ravenswood Generating Station on November 15, 2013 has been annulled and remitted back to the department for further action on the application in accordance with SEQR.

The Department is using information presented in the initial water withdrawal permit application dated May 31, 2013 as well as the information presented in the permit renewal application dated August 2, 2017 as the basis for our review. Because the facility has the capacity to withdraw 1,527.84 million gallons per day of water, the project must be considered a Type 1 action under the State Environmental Quality Review Act.

The Department has determined that the following information is necessary:

1. A completed and signed Part 1 of a Full Environmental Assessment Form. The form is available at http://www.dec.ny.gov/permits/6191.html. Please note that the Department has received a Short Environmental Assessment Form dated January 13, 2017 for the action of transfer to Helix Generation LLC. The Full Environmental Assessment Form must describe the water withdrawal activity at the facility.
2. A letter signed by the owner or owner's representative indicating what, if any, changes to the water withdrawal system have been made since August 2, 2017.

Please mail three paper copies of this information by April 27, 2018 to me at the address indicated in the letterhead above.

If you have any questions or concerns, please contact me at (518) 402-9178 or at Kent.Sanders@dec.ny.gov.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Sincerely,

Kent Sanders
Deputy Chief Permit Administrator

ec: S. Watts, NYSDEC Region 2 Regional Permit Administrator
C. Conyers, NYSDEC Office of General Counsel
D. English, NYSDEC Division of Water

RAVENSWOOD GENERATING STATION

Ravenswood Generating Station
38-54 Vernon Blvd.
Long Island City, NY 11101

May 4, 2018

Kent Sanders
Deputy Chief Permit Administrator
NYSDEC Headquarters
625 Broadway, 4th Floor
Albany, NY 12233-1750

Re: Ravenswood Generating Station
SEQR to Water Withdrawal Permit # 2-6304-00024/00054

Dear Mr. Sanders,

The Ravenswood Generating Station ("Ravenswood") is a longstanding electric generating facility. Ravenswood has played a significant role by supplying New York City's energy needs within a constantly growing New York City market for decades. The original design of the facility included boilers, steam-turbines, generators and auxiliary electrical equipment. Multiple surface water intake withdrawals were incorporated into the design to supply noncontact cooling water to condensers, heat exchangers and other facility needs. As per the requirements of the facility's Water Withdrawal Permit, annual water withdrawal reports have been filed annually. Ravenswood staff examines numbers used for water withdrawal calculations to ensure complete and transparent reporting is performed. In the reporting year 2017, the facility's maximum withdrawal rate was 1,358 million gallons per day (MGD); the facility's maximum permitted withdrawal rate is 1,527.84 MGD. The daily average withdrawal for 2017 was 371 MGD.

Ravenswood's water withdrawal design utilizes a once through cooling water intake system to condense low pressure steam exhausted from the low pressure turbine. Two circulating water pumps per unit are used inject surface water from the East River into steam surface condensers. Also included in the design is the low pressure salt water system which provides cooling water to various heat exchangers for auxiliary systems. The high pressure salt water system takes suction from the low pressure saltwater system and is accounted for in the low pressure systems withdrawal.

While the water withdrawal equipment utilized at the plant was included in the original design and has been used since its inception, Ravenswood has been working collaboratively with the NYSDEC continuously to install equipment to reduce its water withdrawal and overall environmental impact. The installation of variable speed drives on the circulating water pumps has, on average, reduced surface water withdrawal from the East River by approximately 142 MGD. The water withdrawal reductions from the installation of variable speed pumps allows Ravenswood to operate without exceeding its

current permitted withdrawal during normal day-to-day operation. As of August 2nd 2017, no changes or modifications have been made to the water withdrawal system at Ravenswood.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

Tanja Grzeskowitz
Compliance Manager
Tel. 718-706-2705
e-mail:tanja.grzeskowitz@ethosenergygroup.com

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Application for Water Withdrawal Permit (DEC ID# 2-6304-00024-00054)		
Project Location (describe, and attach a general location map): Ravenswood cooling water intakes; located on the shoreline of the East River. North of the Queensboro Bridge and south of the Roosevelt Island Bridge		
Brief Description of Proposed Action (include purpose or need): The Ravenswood Generating Station (RGS), an electric generating facility consisting of three (3) conventional boilers (Units 10/20/30), a combined cycle unit (Unit 40), and three (3) operational simple cycle units (GT1, GT10, GT11), is located in Long Island City, New York and is situated along the bank of the upper East River, across from Roosevelt Island. The existing water withdrawal system was commissioned in 1963 and is used to supply once through cooling water for Units 10, 20 and 30. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condenser to condense exhausted steam from the low pressure turbine. Water withdrawn is return to the East River via SPDES permit NY 0005193. The facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. Supplemental technology includes Variable Speed Pumps (VSP) and Vacuum Priming Systems (VPS) on the Cooling Water Intake Structures (CWIS). This technology is used to reduce impingement and entrainment of aquatic organisms by incremental reductions in cooling water intake flows by operating the circulating water pumps at less than full capacity. For 2017-2018, the daily average water withdrawal from the East River was 371 million gallons per day (MGD) and the maximum day withdrawal was 1358 MGD. As of August 2, 2017, there have been no modifications or changes to the water withdrawal system.		
Name of Applicant/Sponsor: Helix Ravenswood, LLC	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Project Contact (if not same as sponsor; give name and title/role): Tanja Grzeskowitz - Compliance Manager	Telephone: E-Mail:	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Property Owner (if not same as sponsor):	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☐Yes☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☐Yes☑No		
e. County agencies ☐Yes☑No		
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	New York State Department of Environmental Conservation	
h. Federal agencies ☐Yes☑No		

i. Coastal Resources.
i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes☐No

ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes☐No

iii. Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? ☑Yes☐No

- **If Yes,** complete sections C, F and G.
- **If No,** proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? ☐Yes☑No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? ☐Yes☐No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) ☑Yes☐No

If Yes, identify the plan(s):
Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? ☐Yes☑No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☐ Yes ☑ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Queens, District 30

b. What police or other public protection forces serve the project site?
NYPD, US Coast Guard

c. Which fire protection and emergency medical services serve the project site?
FDNY

d. What parks serve the project site?

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial, Commercial

b. a. Total acreage of the site of the proposed action? 0 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 26 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % Units:

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)
ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed?
iv. Minimum and maximum proposed lot sizes? Minimum Maximum

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: N/A months
ii. If Yes:
- Total number of phases anticipated
- Anticipated commencement date of phase 1 (including demolition) month year
- Anticipated completion date of final phase month year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures _____
ii. Dimensions (in feet) of largest proposed structure: _____height; _____width; and _____ length
iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: _____
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐Surface water streams ☐Other specify:
_____
iii. If other than water, identify the type of impounded/contained liquids and their source.
_____
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):
_____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? ☐Yes ☑No
(Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
If Yes:
i. What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.
_____
_____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____
_____
v. What is the total area to be dredged or excavated? _____ acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: _____
_____
_____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____
_____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐Yes☐No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐Yes☐No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☐Yes☑No
If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐Yes☐No
If Yes:

- Name of district or service area:
- Does the existing public water supply have capacity to serve the proposal? ☐Yes☐No
- Is the project site in the existing district? ☐Yes☐No
- Is expansion of the district needed? ☐Yes☐No
- Do existing lines serve the project site? ☐Yes☐No

iii. Will line extension within an existing district be necessary to supply the project? ☐Yes☐No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐Yes☐No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐Yes☑No
If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐Yes☐No
If Yes:

- Name of wastewater treatment plant to be used:
- Name of district:
- Does the existing wastewater treatment plant have capacity to serve the project? ☐Yes☐No
- Is the project site in the existing district? ☐Yes☐No
- Is expansion of the district needed? ☐Yes☐No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:

- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐Morning ☐Evening ☐Weekend ☐Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: n/a
- Saturday: n/a
- Sunday: n/a
- Holidays: n/a

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: 24 hours

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐Yes ☑No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐Yes ☐No

Describe:

n.. Will the proposed action have outdoor lighting? ☐Yes ☑No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐Yes ☐No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐Yes ☑No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐Yes ☑No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction:
- Operation:

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction:
- Operation:

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☑ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe:

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	26	26	0
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No
If Yes,
i. Identify Facilities:

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☐ No
- If yes, cite sources/documentation: _____

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☑Yes ☐No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
The site produces non-acute hazardous waste under a "Small Quantity Generator" status. Waste is contained in a hazardous waste storage area, inventoried weekly, sampled and tested for hazardous materials which are shipped off site to a treatment facility in compliance with RCRA regulations.

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑Yes ☐ No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑Yes ☐No
☑ Yes – Spills Incidents database — Provide DEC ID number(s): 1510992,110822,905194,912294,100852
☑ Yes – Environmental Site Remediation database — Provide DEC ID number(s): V00368 , 241119
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures: _____

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑Yes ☐No
If yes, provide DEC ID number(s): C241109, C241086, C241101, C241100, C241099, V0...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):

DEC ID# V00368 (Voluntary Cleanup Program) is satisfactorily closed.
DEC ID# 241119 remains with classification "P"
DEC ID# C241109, C241086, C241101, C241100, C241099 are not associated with Ravenswood Generating Station

v. Is the project site subject to an institutional control limiting property uses? ☐ Yes ☑ No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? ☐ Yes ☑ No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 25 feet

b. Are there bedrock outcroppings on the project site? ☐ Yes ☑ No
If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site:

Silt loam	N/A %
loamy sand	N/A %
fine sandy loam	N/A %

d. What is the average depth to the water table on the project site? Average: 7-10 feet

e. Drainage status of project site soils:

☐ Well Drained:	N/A % of site
☐ Moderately Well Drained:	N/A % of site
☐ Poorly Drained	N/A % of site

f. Approximate proportion of proposed action site with slopes:

☐ 0-10%:	N/A % of site
☐ 10-15%:	N/A % of site
☐ 15% or greater:	N/A % of site

g. Are there any unique geologic features on the project site? ☐ Yes ☑ No
If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑ Yes ☐ No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑ Yes ☐ No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑ Yes ☐ No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name _____ Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters Approximate Size _____
- Wetland No. (if regulated by DEC) East River Watershed (0203010201)

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑ Yes ☐ No

If yes, name of impaired water body/bodies and basis for listing as impaired:
Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recreation;Fish Consumption;Aqua...

i. Is the project site in a designated Floodway? ☐ Yes ☑ No

j. Is the project site in the 100 year Floodplain? ☑ Yes ☐ No

k. Is the project site in the 500 year Floodplain? ☑ Yes ☐ No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑ Yes ☐ No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Brooklyn-Queens SSA

m. Identify the predominant wildlife species that occupy or use the project site: _____

n. Does the project site contain a designated significant natural community? ☐Yes ☑No
If Yes:
i. Describe the habitat/community (composition, function, and basis for designation): _____
ii. Source(s) of description or evaluation: _____
iii. Extent of community/habitat:
- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No

Peregrine Falcon

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No
If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No
If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No
i. If Yes: acreage(s) on project site? _____
ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No
If Yes:
i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature
ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No
If Yes:
i. CEA name: _____
ii. Basis for designation: _____
iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

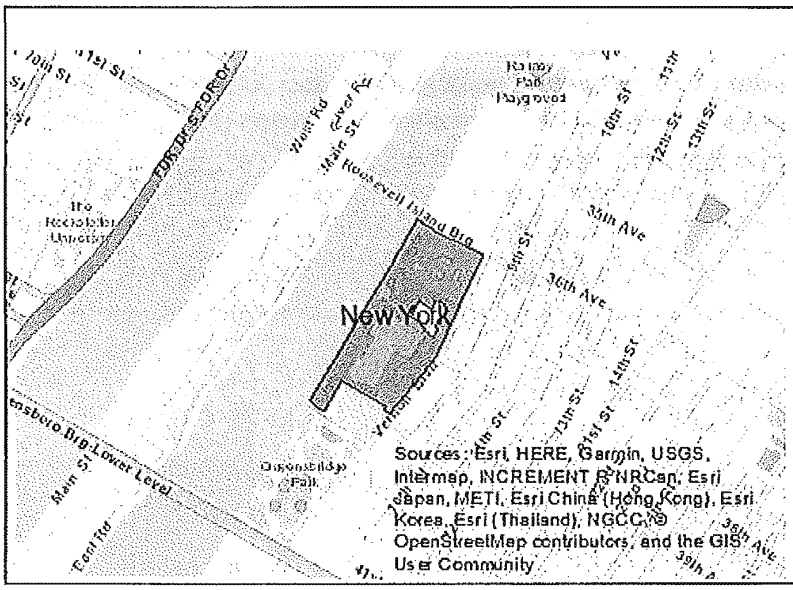
Applicant/Sponsor Name Helix Ravenswood LLC Date 5/4/18

Signature Tanya Greskowitz Title Compliance Manager

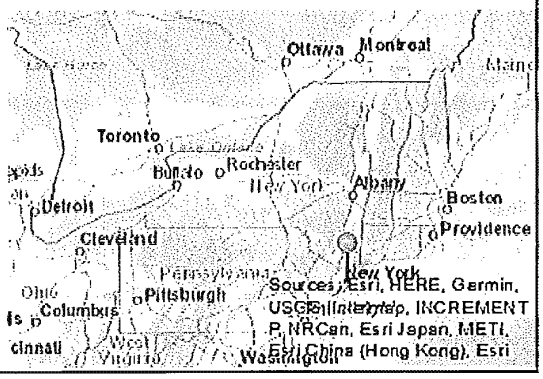
PRINT FORM

EAF Mapper Summary Report

Wednesday, April 25, 2018 4:32 PM

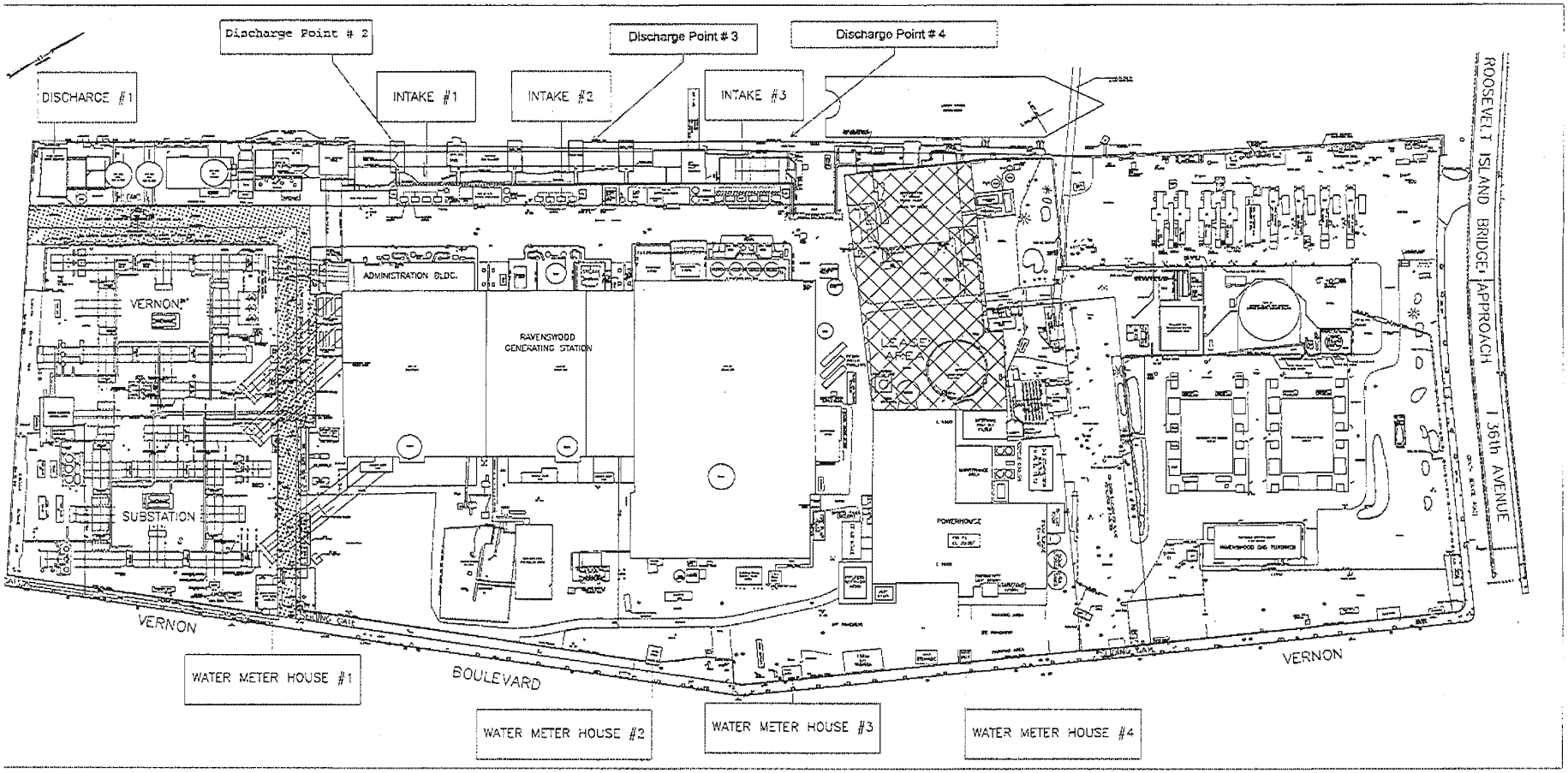


Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	V00368 , 241119
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	C241109, C241086, C241101, C241100, C241099, V00368 , 241028 , C241028 , 241126, 241119
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recreation;Fish Consumption;Aquatic Life

E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Brooklyn-Queens SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Peregrine Falcon
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Circulating Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Circulating Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Circulating Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

A-498

COPY OF COMPLETED PART 3 OF FULL ENVIRONMENTAL ASSESSMENT FORM DATED SEPTEMBER 25, 2018 SUPPLIED TO DWAIN WILDER [A-498 - A-499]

Agency Use Only [IfApplicable]

Project :

Date :

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:
To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Criteria for determining Significance under NYCRR Part 617.7(c)

(ii) the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources;

The current water withdrawal regime was established by a Department initiated modification to the Facilities SPDES permit in 2006. As part of that review process the Department issued a Negative Declaration of Significance. The Department required measures to ensure the facility operated in accordance with 6 NYCRR Part 704.5 and Section 316(b) of Clean Water Act. These regulations require that a facility minimize impacts from impingement and entrainment on aquatic organisms from the cooling water intake. Further discussion of the measures employed to minimize impacts from the facility's cooling water intake structure is provided below.

First, the facility employs a fish-friendly return system to increase the survivability of fish that become impinged on the intake screen. The current SPDES permit also required the installation of variable speed pumps on each unit. Variable speed pumps allow for the reduction in cooling water used during reduced power demand and colder source water conditions. In addition, the to the traveling screens on all the units were required to be upgraded. The improvements will allow for the continuous use of the screens and thereby increase the impingement survival. The SPDES permit also requires the scheduling of planned outages to minimize water usage during periods of high fish and egg abundance in the river.

All of the above measures will result in the reduction of impingement mortality by 90% and entrainment mortality by 65% over baseline conditions. These reductions will result in positive environmental benefits to the aquatic resources of the East River. Further, none of the proposed measures require the physical disturbance of either land or the river bed. The proposed measures will also not impact the water column or any benthic habitat.
The 2012 SPDES permit renewal requires continued use of the BTA measures, and verification monitoring. If the monitoring results indicate the required reductions in impingement and entrainment are not met, the permittee must propose additional technologies to be implemented at the facility that will allow them to meet the impingement and entrainment reductions.

Coastal Consistency
A Coastal Assessment Form (CAF)was completed for this Project. Further review by the Department of State was not indicated. The New York City Local Waterfront Revitalization Plan was reviewed. No conflict with the LWRP was found.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Department of Environemntal Conservation as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Ravenswood Generation Station Initial Water Withdrawal Permit

Name of Lead Agency: NYSDEC

Name of Responsible Officer in Lead Agency: Kent P. Sanders

Title of Responsible Officer: Environmental Analyst III

Signature of Responsible Officer in Lead Agency: Kent P. Sanders Date: 9/25/2018

Signature of Preparer (if different from Responsible Officer) Date:

For Further Information:

Contact Person: Kent P. Sanders

Address: NYSDEC, 4th Floor 625 Broadway, Albany, 12233-1750

Telephone Number: 518 402 9178

E-mail: deppermitting@dec.ny.gov

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

A-500

ENB NOTICE OF EXTENSION OF PUBLIC COMMENT PERIOD FOR 2019 PERMIT, DATED OCTOBER 17, 2018 [A-500 - A-502]

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ENB - Region 2 Notices 10/17/2018

Notice of Extension of Public Comment Period

New York State Department of Environmental Conservation (NYS DEC) has extended the Public Comment Period for the Referenced Project until November 17, 2018.

Applicant:

Helix Ravenswood LLC
38-54 Vernon Boulevard
Long Island City, NY 11101

Permits applied for and application numbers:

Initial Water Withdrawal Permit
DECID# 2-6304-00024/00056

Project description and location:

The applicant has applied for an initial permit for the continued withdrawal of up to 1.5 billion GPD of water for operation of the Ravenswood Generation Station. The Station has been in operation since 1963. No changes in current operations are proposed. NYS DEC has determined that the Facility is eligible for an Initial Permit which are limited to existing facilities for existing water withdrawals over 100,000GPD which were properly reported to NYS DEC.

State Environmental Quality Review (SEQR) Determination:

Project a Type I action and will not have a significant effect on the environment. A coordinated review with other involved agencies was performed and a Negative Declaration is on file

SEQR Lead Agency:

New York State Department of Environmental Conservation (NYS DEC)

State Historic Preservation Act (SHPA) Determination:

SHPA - 1 Cultural resource lists and map have been checked. No registered, eligible or inventoried archaeological sites or historic structures were identified at the project location. No further review in accordance with SHPA is required.

Coastal Management:

This project is located in a Coastal Management area and is subject to the Waterfront Revitalization and Coastal Resources Act.

Availability for Public Comment:

The application may be reviewed at the address to the right. Written comments on the project must be submitted to the contact listed below no later than November 17, 2018.

Contact: Kent P. Sanders, NYS DEC - Division of Environmental Permits, 625 Broadway, Albany, NY 12306-2014, Phone (518) 402-9178, Fax 518-402-9168, E-mail: DEPPermitting@dec.ny.gov.

Public Notice

Fact Sheet

The New York State Department of Environmental Conservation (NYS DEC) has received a Brownfield Cleanup Program (BCP) application and Draft Remedial Investigation Work Plan from Breaking Ground II Housing Development Fund Corporation for a site known as Betances Senior Residence, site ID #C203116. This site is located in the Borough of Bronx within the County of Bronx, and is located at 444-454 East 143rd Street and 453 East 142nd Street.

A copy of the application, Draft Remedial Investigation Work Plan and other relevant documents are available at the document repositories located at New York Public Library - Mott Haven Branch, 321 East 140th Street, Bronx, NY 10454 and Bronx Community Board 1, 3024 Third Avenue, Bronx, NY 10455.

There are several ways to comment on BCP applications. Comments can be submitted to: Christopher Allan, NYS DEC - Region 2 Office, Division of Environmental Remediation, 47-40 21st Street, Long Island City, NY 11101, Phone: (718) 482-4065, E-mail: christopher.allan@dec.ny.gov. **All comments must be submitted by November 18, 2018.**

Site information can be viewed by entering the site ID noted above at: http://www.dec.ny.gov/cfmx/extapps/derexternal/index.cfm?pageid=3

We would also encourage those interested in receiving information on future activities at this site or any other site to sign up to NYS DEC's Contaminated Sites Email List at: http://www.dec.ny.gov/chemical/61092.html

What is the Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) is designed to encourage private-sector cleanups of brownfields and to promote their redevelopment as a means to revitalize economically blighted communities. The BCP is an alternative to "greenfield" (land not previously developed or contaminated) development and is intended to remove some of the barriers to, and provide tax incentives for, the redevelopment of brownfields. Since its inception (2003), the BCP has catalyzed the cleanup of more than 300 contaminated sites statewide and incentivized redevelopment. There are more than 350 active sites in the BCP.

Additional information on New York State's Brownfield program is available at NYS DEC's website: http://www.dec.ny.gov/chemical/8450.html

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Positive Declaration and Public Scoping

Bronx, Kings, New York, Queens and Richmond Counties (Bronx, Brooklyn, Manhattan, Queens, and Staten Island) - The New York City Department of Corrections, as lead agency, has determined that the proposed New York City Borough-Based Jail System Proposal may have a significant adverse impact on the environment and a Draft Environmental Impact Statement must be prepared. **Written comments on the draft scope will be accepted until October 29, 2018.** The Draft Scope is available on line at: https://a002-ceqraccess.nyc.gov/ceqr/.

The City of New York's success in dramatically reducing crime and lowering the number of people in jail, coupled with the grassroots support for closing Rikers Island Correctional Facility (Rikers Island), has allowed for New York City, through the New York City Department of Correction (NYC DOC), to propose implementing a borough-based jail system as part of the City's continued commitment to create a modern, humane and safe justice system and close the jails on Rikers Island. This proposed project would establish four new detention facilities located in the Bronx (320 Concord Avenue), Brooklyn (275 Atlantic Avenue), Manhattan (80 Centre Street), and Queens (126 02 82nd Avenue) all in the City of New York, New York. In total, the proposed

project would accommodate an average daily jail population of 5,000 detainees, while allowing space for fluctuations in the detainee population. Each of the proposed facilities would provide approximately 1,510 detainee beds, visitation space, space for correctional and detained programming and therapeutic and health services, community and administrative space, and parking. Some sites may include community and/or retail space that would integrate the proposed facilities with the surrounding neighborhood and could also provide court facilities and/or centralized care services (i.e., centralized infirmary and maternity ward services) for the detainee population.

Each proposed facility is currently on New York City-owned property but requires a number of discretionary actions that are subject to New York City's Uniform Land Use Review Procedures (ULURP) including, but not limited to, site selection for public facilities, zoning approvals, and for certain sites, changes to the City map. NYC DOC has issued a Positive Declaration and in accordance with the rules and procedures of New York City Environmental Quality Review (CEQR), a Draft Environmental Impact Statement (Draft EIS) will be prepared. As a first step in the Draft EIS process, a Draft Scope of Work is currently available for public review.

Contact: Howard Fiedler, NYC DOC, 75-20 Astoria Boulevard, Suite 160, East Elmhurst, NY 11370, Phone: (518) 546-0806, E-mail: boroughplan@doc.nyc.gov.

Atlantic Chapter

November 16, 2018

Mr. Kent Sanders
Deputy Chief Permit Administrator
NYS Department of Environmental Conservation
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, NY 12233-1750

Re: Comments on Helix Ravenswood LLC's Application for a Non-Public Water Withdrawal Permit, Application ID 2-6304-00024/00056

Dear Mr. Sanders:

The Atlantic Chapter of the Sierra Club appreciates the extension granted by DEC to comment on the above-captioned application by Helix Ravenswood LLC ("Helix") for a non-public water withdrawal permit for operation of Helix's Ravenswood Generating Station on the East River.[1] The Atlantic Chapter is a volunteer led environmental organization of 54,000 members statewide committed to protecting New York's air, water and remaining wild places.

We call on DEC to deny the Helix application, prepare a new draft permit with appropriate terms and conditions, revoke the negative declaration, and require a draft environmental impact statement (EIS) for the reasons set forth below.

We would welcome an opportunity to meet with you to discuss new permitting procedures that comply with the requirements of the 2011 water withdrawal permitting law, ECL Article 15, Title 15, 1501 et seq. (the "WWPL").

1. DEC's Plan to Reissue the 2014 Ravenswood Permit Does Not Meet the Requirements of the Water Withdrawal Permitting Law

We understand that the permit DEC plans to issue to Helix is identical to the permit invalidated by the Appellate Division Second Department in its decision issued January 10, 2018, in *Sierra Club v. Martens*.[2] DEC's plan to reissue the identical permit DEC issued to TC Ravenswood LLC on March 7, 2014 (the "2014 Permit") is surprising because the court's decision established that the 2014 Permit does not meet the requirements of the WWPL. The court found that, contrary to the arguments DEC made in the case, DEC has discretion in setting the terms and conditions of the 2014 Permit.

1 https://www.dec.ny.gov/enb/20181003_reg2.html#263040002400056.
2 158 A.D.3d 169 (2nd Dep't 2018).

The court stated that whether 'the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures' (ECL 15-1503[2][g]) will almost certainly vary from operator to operator, or from water source to water source. . . . Whether a condition is 'appropriate' for a given operator is a matter that falls within the DEC's expertise and involves the exercise of judgment, and, therefore, implicates matters of discretion."[3] Because the court found that DEC did have discretion in setting appropriate terms and conditions of the 2014 Permit under the provisions of the WWPL, the court invalidated the permit on the ground that issuance of the 2014 Permit was not exempt from review under the State Environmental Quality Review Act (SEQRA) as a non-discretionary act.

The record in the court proceeding shows that DEC did not exercise its discretion and make any of the eight determinations required by ECL 15-1503.2 before issuing the 2014 Permit and thus was not in a position to use those determinations to set appropriate permit terms and conditions tailored to the operations of the Ravenswood Generating Station as required by ECL 15-1503.4 in the 2014 Permit. DEC took the position in the court proceeding that the making of such determinations is not required for issuance of a permit to an existing water user. The court's decision makes clear that such determinations are required. Thus it is apparent that reissuance of the 2014 Permit will not be in compliance with the WWPL. DEC must make the determinations required by ECL 15-1503.2 and 6 NYCRR 601.11(c)(1)-(8), and must use those determinations to set appropriate terms and conditions before issuing a new water withdrawal permit to Helix.

a. The WWPL Requires that DEC Determine Cumulative Adverse Effects

Among the determinations DEC is required to make before issuing a permit to Helix and has not made is the determination required by ECL 15-1503.2(f) regarding cumulative adverse effects of the Ravenswood withdrawal together with other large withdrawals on water dependent natural resources in the Hudson River estuary. To make this determination, DEC must examine the cumulative impacts of all the power plants and other large water users operating in the Hudson River estuary.

A 2011 Sierra Club report notes that 17 power plants affect the Hudson River estuary:

> A total of 17 power plants using once-through cooling are located in the region: four on the Hudson River, eight on the Long Island Sound and five in New York Harbor. . . . All these plants use exorbitant amounts of water. . . . The Hudson River plants have a combined intake capacity of nearly 5 billion gallons per day; the Long Island Sound plants have a combined intake capacity exceeding 5 billion gallons per day; and the New York Harbor and East River plants have a combined intake capacity of more than 3.5 billion gallons per day. Altogether,

[3] Id. at 177.

> the 17 plants can withdraw almost 14 billion gallons per day from the two estuaries and the harbor. . . .
>
> Because of these waters' importance as spawning and nursery grounds, it is unsurprising that entrainment of eggs and larvae occur in astronomic numbers. . . .
>
> [P]ower plants using once-through cooling on the Hudson have a huge, detrimental impact on the ecology of the estuary—and this impact goes well beyond the loss of large numbers of individual fish. In a 2007 report, New York State found that the cumulative impact of multiple facilities on the river substantially reduces the population of young fish in the entire river. In certain years those plants have entrained between 33 and 79 percent of the eggs and larvae spawned by striped bass, American shad, Atlantic tomcod and five other important species. Over the time the plants have been operating, the ecology of the Hudson River has been altered, with many fish species in decline and populations becoming less stable. Of the 13 key species subject to intensive study, ten have declined in abundance, some greatly. Power plants have played a considerable role in that decline.[4]

As the Sierra Club report notes, five power plants operate in the estuary itself. DEC has issued water withdrawal permits to these five plants to take a total of almost 4.1 billion gallons per day ("GPD") from the harbor estuary. Four of these plants take water from the East River. In addition to the water withdrawal permit DEC plans to issue to Helix for operation of the Ravenswood plant to take up to 1.528 billion GPD from the East River, DEC has issued a permit to US Power for its Astoria Generating Station in Queens to take up to 1.454 billion GPD from the East River on September 24, 2014, DEC has issued a permit to Consolidated Edison for its East River Generating Station to take up to 323.6 million GPD from the East River on November 21, 2014, and DEC has issued a permit to Brooklyn Navy Yard Cogeneration Partners for its Brooklyn Navy Yard plant to take up to 72 million GPD from the East River on February 27, 2015. The combined total amount of the maximum withdrawals from the East River authorized at these four plants is almost 3.4 billion GPD. When the 712.8 million GPD authorized by the permit DEC issued to Arthur Kill Generation LLC for withdrawals by its Arthur Kill Generating Station from Arthur Kill on September 14, 2016 is added to this amount the combined withdrawals from the harbor estuary authorized by the permits issued to these five plants is a staggering 4 billion GPD.

The cumulative impact of the withdrawals from Hudson River estuary needs to be evaluated. Gilbert Hawkins, past president of the Hudson River Fishermen's Association, a co-petitioner with the Sierra Club in the *Martens* case, points out in his

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[4] *Giant Fish Blenders: How Power Plants Kill Fish & Damage Our Waterways*, Sierra Club, July 2011, 16-17, citing DEC's New York State Water Quality Report 2006 (published 2007). https://vault.sierraclub.org/pressroom/media/2011/2011-08-fish-blenders.pdf

affidavit in the case that the East River is one of the main fish migration routes between the Atlantic Ocean and both the Hudson River and Long Island Sound.[5] He says, "Because the East River is constantly filled with moving water, it is a very attractive location for fish. There are two tides a day in the East River, which means that there are strong currents in the river four time a day—the incoming and outcoming flows for each tide. Millions of fish are riding on these flows in the migratory seasons."[6] The ecological significance of the Hudson River estuary is described in above-referenced Sierra Club report:

> The ecological influence of the Hudson estuary extends far into the Atlantic Ocean and along the coast. For vast schools of migratory sturgeon, herring, blue crab, mackerel and striped bass, the Hudson is a nearly unimpeded corridor from the Atlantic to their ancestral spawning grounds. These fish support a 350-year-old recreational and commercial fishery along the Atlantic coast that's worth hundreds of millions of dollars.[7]

The impingement and entrainment of fish and other aquatic organisms by the Ravenswood plant and the other estuary power plants has been documented over the years in studies conducted by the plants pursuant to their State Pollution Discharge Elimination System ("SPDES") permits. The most recent studies for the Ravenwood plant, the 2005-2006 studies, are summarized in the Biological Fact Sheet issued in conjunction with the renewal of the plant's SPDES permit in 2012:[8]

> The most recent Impingement and Entrainment studies were conducted from March 2005 to February 2006. About 25,850 fish were impinged over the year, ... Approximately 149.7 million eggs, larvae and juveniles were entrained through the station. . . . . Post-yolk-sac larvae (51.2%) and eggs (47.0%) were the main life stages found in the entrainment collections.[9]

The following table summarizes impingement and entrainment by the five power plants in New York harbor based on I&E data shown in their biological monitoring reports.[10] The I&E date shown on the table is the date of the I&E studies described in the

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5 Record 271.

6 Id.

7 *Id.* at 14-15.

8 According to DEC's permit applications database, TC Ravenswood's 2017 application to renew its SPDES permit is "Suspended Indefinitely as of 04/25/2017," http://www.dec.ny.gov/cfmx/extapps/envapps/index.cfm?view=detail&applid=11136160 [last accessed 11/11/18].

9 *Sierra Club v. Martens* record on appeal at 155-156. Record linked at http://treichlerlawoffice.com/water/ravenswood/appeal/record_072715.pdf .

10 The biological monitoring report for Ravenswood is the 2012 report quoted above. The reports for Arthur Kill, Astoria and East River are the reports linked on the GRACE Communication Foundation website, http://www.gracelinks.org/maps/homepage/post/422 [accessed 11/12/18]. The I&E numbers shown in the above table correspond to the I&E numbers described in the biological monitoring reports linked on the website, but do not always correspond to the numbers shown in the tables on the website.

biological monitoring reports. The low entrainment and impingement data for Ravenswood, the largest power plant operating in the estuary, is highly anomalous compared to the figures for the other plants shown in the table, particularly when the size of Ravenswood's withdrawals are taken into account. This anomaly needs to be explained.

Table 1. Impingement and Entrainment by New York Harbor Power Plants

Generating Station	*Permit GPD*	*Entrainment (annual)*	*Impingement (annual)*	*I&E Date*
Arthur Kill	712,800,000	2,600,000,000	7,380,000	2007
Astoria	1,454,000,000	629,800,000	3,100,000	2007
Brooklyn Navy Yard	72,000,000	38,998,201	0	NA
East River	323,600,000	1,340,000,000	1,500,000	2006
Ravenswood	1,528,000,000	149,700,000	25,850	2006
Total	4,090,400,000	4,758,498,201	12,005,850	

b. The WWPL Requires that DEC Determine Environmentally Sound and Economically Feasible Water Conservation Measures

Another determinations DEC is required to make and has not made for the Ravenswood water withdrawal is the determination required by ECL 15-1503.2(g) as to whether the withdrawal "will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures."

Closed-cycle cooling is an obvious water conservation measure that must be evaluated for the Ravenswood plant pursuant to ECL 15-1503.2(g). A once-through cooling system withdraws water from the source waterbody, runs it through the condenser system, and then discharges it without recirculation. In contrast, closed-cycle cooling -systems recirculate and reuse cooling water. A 2010 report on the impact of once-through cooling systems in New York power plants concludes, "Closed-cycle cooling is a proven technology that reduces power plant water intake by up to 98 percent, thereby reducing the damage to aquatic life by up to 98 percent."[11] Closed-cycle cooling is required by DEC's 2011 guidance on Best Available Technology ("BTA") for Cooling Water Intake Structures for new and repowered electric generation plants.[12]

Were closed-cycle cooling to be implemented at each of the power plants and large industrial users impacting the Hudson River estuary, the cumulative impacts of the

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The Brooklyn Navy Yard entrainment data is taken from the table on the GRACE website. No biological monitoring report is linked for this plant.

[11] *Reeling in New York's Aging Power Plants: The Case for Fish-Friendlier Power*, Kyle Rabin, Network for New Energy Choices, June 2010, http://www.gracelinks.org/141/reeling-in-new-york-s-aging-power-plants .

[12] "BTA for Cooling Water Intake Structures," July 10, 2011, http://www.dec.ny.gov/docs/fish_marine_pdf/btapolicyfinal.pdf [accessed July 5, 2015].

plants withdrawals on water dependent natural resources in the estuary would be tremendously reduced.

2. The Inclusion of Conditions from the Ravenswood SPDES Permit Is Not a Substitute for Making the Determinations Required by the WWPL

DEC's inclusion of a condition in the 2014 permit incorporating the biological monitoring requirements of Ravenswood's SPDES permit is not a substitute for making the determinations required by ECL 15-1503.2. Although 6 NYCRR 601.7(f) provides that DEC will review an initial water withdrawal permit application "in coordination with the SPDES or other permit program, particularly with respect to any pending permit renewals," neither this section nor any other section of the WWPL and regulations authorize incorporating provisions from a SPDES permit as a means of fulfilling DEC's obligations to make the determinations required in ECL 15-1503.2.

The New York legislature enacted the new water withdrawal permitting law requiring extensive water conservation measures in 2011 because it perceived that DEC did not have adequate authority under existing laws, such as the SPDES law, to protect New York's water resources. Almost every major water user in the state already has a SPDES permit. If water withdrawals could be adequately regulated under the SPDES program, the legislature would not have seen a need for a new permitting program imposing significant water conservation requirements. The WWPL and the SPDES law have different objectives and different requirements. The standards to be applied is issuing a SPDES permit are not the same as the standards that apply under the WWPL and regulations, and DEC must make a separate *de novo* determination regarding the benefits of closed-cycle cooling pursuant to the requirements of the WWPL. The vast majority of persons subject to the new law are existing users. DEC's continued refusal to effectively apply the requirements of the WWPL to existing users effectively nullifies the purposes for which the law was enacted.

3. Sufficient Information to Make the Required Determinations Must Be Included in the Application Materials

Insufficient information is contained in the Helix permit application to enable DEC to make the determinations required ECL 15-1503.2. The water withdrawal regulations require that information necessary to make the determinations required by ECL 15-1503.2 be included in the application materials for a water withdrawal permit. 6 NYCRR 601.10(k). The Helix application for a transfer of the 2014 Permit to Helix was submitted on August 2, 2017, five months before the appeals court invalidated the 2014 Permit. The only modification DEC required Helix to make to its transfer application was to require that Helix complete a full Environmental Assessment Form rather than the short form EAF Helix originally submitted. After submission of this form, Helix's transfer application was accepted as sufficient on September 25, 2018, more than eight months after the court's decision. DEC accepted as sufficient the project justification included with Helix's 2017 transfer application even though it was a resubmission of the project justification submitted by TransCanada with its original permit application in 2013. This project justification does not meet the requirements of 6 NYCRR 601.10(k). It does not show:

(1) that any alternatives to the plant's existing once-through cooling system were evaluated;

(2) that alternatives such as closed-cycle cooling could not reduce the size of the plant's water withdrawals;

(3) why once-through cooling is reasonable given the dramatic reductions in water use that would result from closed-cycle cooling;

(4) why once-through cooling is environmentally sound and economically feasible; or

(5) that the plant's tremendous water withdrawals will result in no significant individual or cumulative adverse environmental impacts.

The project justification submitted by Helix explains the operation of the Ravenswood once-through cooling system and states that efforts that have been made at the plant to use variable speed pumps and moveable screens to reduce the amounts of water withdrawn from the East River in order to reduce fish impingement and entrainment by the plant's water intake system,[13] but no information is included regarding impingement and entrainment numbers before and after the new technology was installed and no alternative technologies are evaluated for their impingement and entrainment. Nor is there any evaluation of the effects of impingement and entrainment by the plant on water dependent natural resources in the Hudson River estuary or of the cumulative effects of impingement and entrainment by all the power plants and industrial facilities taking water from the estuary.

Because Helix's application does not provide sufficient information to make the determinations required in the WWPL and accompanying regulations, DEC needs to require that Helix amend its water withdrawal permit application to provide the necessary data and analysis.

4. Preparation of a Full Environmental Impact Statement Is Required

When DEC issued the 2014 Permit, DEC claimed that the issuance of water withdrawal permits to existing users was exempt from review under the State Environmental Quality Review Act, ECL Article 8, ("SEQRA") because it claimed it had no discretion under the WWPL to set terms and conditions tailored to the individual user for such permits. Now that the court has ruled that DEC does have discretion in setting terms and conditions of permits issued to existing water users and invalidated the 2014 Permit because DEC did not conduct a review under SEQRA of the impacts of issuing a permit to TransCanada, DEC now avoids conducting an effective SEQRA review by

[13] Impingement refers to the entrapment of adult fish and larger organisms against a power plant's water intake screens. Impinged organisms usually die or suffer injury as a result of starvation, exhaustion, descaling by screen wash sprays, or asphyxiation when forced against a screen by velocity forces which prevent proper gill movement for prolonged periods of time. Entrainment refers to organisms being carried through a power plant's condenser system. The organisms that become entrained are relatively small, including the eggs and larvae of larger organisms.

issuing a determination that reissuance of the 2014 Permit will have no environmental impact. This determination flies in the face of the tremendous size of the withdrawals being permitted for the Ravenswood plant. As noted above, these withdrawals are the largest withdrawals DEC has permitted to date under the WWPL.

DEC has classified its action in reissuing the 2014 Permit as a Type I action under SEQRA. Type I actions are actions that because of their size, scope or type, are determined to be more likely to have adverse environmental consequences, and therefore require the preparation of a full environmental impact statement ("EIS"). An EIS must be prepared if a proposed action "may include the potential for at least one significant adverse environmental impact." 6 NYCRR 617.7(a)(1). Conversely, to determine that an EIS will not be required for an action, "the lead agency must determine either that there will be no adverse environmental impacts or the identified adverse environmental impacts will not be significant." 6 NYCRR 617.7(a)(2). As explained in 6 NYCRR 617.4(a)(1):

> The purpose of the list of type I actions in this section is to identify, for agencies, project sponsors and the public, those actions and projects that are more likely to require the preparation of an EIS than unlisted actions. All agencies are subject to this type I list. . . . . **[T]he fact that an action or project has been listed as a type I action, carries with it the presumption that it is likely to have a significant adverse impact on the environment and may require an EIS** [emphasis added].

The SEQRA regulations list "a project or action that would use ground or surface water in excess of 2,000,000 gallons per day," as a category of Type I actions that, because of their size, are likely to have a significant adverse impact. 6 NYCRR 617.4(b)(6)(ii). The water withdrawal permit proposed to be issued to Ravenswood to take up to 1,528,000,000 gallons per day, involves withdrawals that are 764 times the Type I threshold provided in Section 617.4(b)(6)(ii). In addition to being 764 times as large as a type of action included on the list of Type I actions, the Ravenswood withdrawals meet the criteria set forth in 6 NYCRR 617.7(c) for determining whether unlisted and Type I actions have a significant adverse impact on the environment. These criteria include "the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources." 6 NYCRR 617.7(c)(ii). As documented in the plant's own impingement and entrainment studies, the plant's massive water withdrawals through its cooling water intake structures remove and destroy large quantities of fish and other aquatic life from the estuary. These massive withdrawals substantially interfere with the movement of resident and migratory fish in the estuary. Among the many species impacted, the withdrawals have substantial adverse impacts on Atlantic sturgeon, which is an endangered species. Thus it is clear that the destruction of

aquatic life by the cooling water intake structures of the Ravenswood plant has a significant adverse impact under the SEQRA standards.

The Negative Declaration states that "the facility employs a fish-friendly return system to increase the survivability of fish that become impinged on the intake screen," but does not explain why the plant's system is "fish-friendly." The Negative Declaration also states that the plant's "current SPDES permit also required the installation of variable speed pumps on each unit. Variable speed pumps allow for the reduction in cooling water used during reduced power demand and colder source water conditions. In addition, the traveling screens on all the units were required to be upgraded." These statements are identical to statements contained in the negative declaration issued for the renewal of the plant's SPDES permit on December 11, 2006. The Negative Declaration repeats the assertion in the 2006 negative declaration for the SPDES permit that "[a]ll of the above measures [i.e. the variable speed pumps and the screen upgrades] will result in the reduction of impingement mortality by 90% and entrainment mortality by 65% over baseline conditions," and states that "these reductions will result in positive environmental benefits to the aquatic resources of the East River."

The Negative Declaration does not evaluate whether the projected reductions in fish impingement and entrainment beyond those documented in the plant's 2005-2006 impingement and entrainment studies have been achieved. The results of the verification monitoring required in the plant's most recent SPDES permit, its 2012 SPDES permit are not described in the Negative Declaration. The Negative Declaration does not offer any data on what the plant's actual fish entrainment and impingement amounts are estimated to be or consider alternative technologies that might further minimize fish entrainment and impingement such as closed cycle cooling. Nor does the Negative Declaration consider the cumulative impacts of the Ravenswood cooling water intake system and the other water withdrawals from the estuary.

In these circumstances, it is clear that DEC has not taken a "hard look" at the impacts of the Ravenswood plant as required by Section 6 NYCRR 617.7(b) of the SEQRA regulations and the many cases interpreting the "hard look" standard.[14] For this reason, DEC must revoke the Negative Declaration and require that a full EIS be prepared.

5. A New Coastal Assessment Form Must Be Prepared

The Coastal Assessment Form (CAF) completed by DEC on September 13, 2018 for reissuance of the 2014 Permit contains incorrect responses to two important questions on the form. DEC incorrectly states that reissuance of the permit will have no significant impacts on "significant fish or wildlife habitats" in its response to question C.1 (a) of the form, and incorrectly states that reissuance of the permit will have no significant impacts on "commercial or recreational use of fish and wildlife resources" in response to question C.2 of the form. Had DEC answered these questions correctly, that would have resulted in the action being analyzed in more detail and possibly modified before a certification of consistency was issued pursuant to 19 NYCRR Part 600 or before DEC made its SEQRA

[14] E.g. *Matter of Kahn v. Pasnik*, 90 N.Y.2d 569 (1997).

determination. If DEC's action in reissuing the 2014 Permit had not been certified as consistent with the state and city coastal policies, it could not have been undertaken. For this reason, a new CAF must be prepared and submitted to the New York State Department of State.

* * *

For the reasons set forth above, we urge DEC to deny the Helix application, prepare a new draft permit revoke the negative declaration, and require a draft environmental impact statement (EIS).

Thank you for your consideration of these comments.

Sincerely,

Roger Downs

Conservation Director
Sierra Club Atlantic Chapter
744 Broadway, Albany, NY 12207
(518) 426-9144

A-513

LETTER FROM RACHEL TREICHLER IN SUPPORT OF SIERRA CLUB COMMENT ON 2019 PERMIT, DATED NOVEMBER 17, 2018 [A-513 - A-523]

LAW OFFICE OF RACHEL TREICHLER
7988 VAN AMBURG ROAD
HAMMONDSPORT, NY 14840
607-569-2114
TREICHLERLAW@FRONTIERNET.NET

VIA EMAIL

November 17, 2018

Mr. Kent Sanders
Deputy Chief Permit Administrator
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233
DEPPermitting@dec.ny.gov

Re: Comments on Helix Ravenswood LLC's Application for a Non-Public Water Withdrawal Permit, Application ID 2-6304-00024/00056

Dear Mr. Sanders:

I support the enclosed comments filed yesterday by the Sierra Club Atlantic Chapter on the above-captioned application.

Respectfully submitted,

Rachel Treichler

Enclosure

Atlantic Chapter

November 16, 2018

Mr. Kent Sanders
Deputy Chief Permit Administrator
NYS Department of Environmental Conservation
Division of Environmental Permits
625 Broadway, 4th Floor
Albany, NY 12233-1750

Re: Comments on Helix Ravenswood LLC's Application for a Non-Public Water Withdrawal Permit, Application ID 2-6304-00024/00056

Dear Mr. Sanders:

The Atlantic Chapter of the Sierra Club appreciates the extension granted by DEC to comment on the above-captioned application by Helix Ravenswood LLC ("Helix") for a non-public water withdrawal permit for operation of Helix's Ravenswood Generating Station on the East River.[1] The Atlantic Chapter is a volunteer led environmental organization of 54,000 members statewide committed to protecting New York's air, water and remaining wild places.

We call on DEC to deny the Helix application, prepare a new draft permit with appropriate terms and conditions, revoke the negative declaration, and require a draft environmental impact statement (EIS) for the reasons set forth below.

We would welcome an opportunity to meet with you to discuss new permitting procedures that comply with the requirements of the 2011 water withdrawal permitting law, ECL Article 15, Title 15, 1501 et seq. (the "WWPL").

1. DEC's Plan to Reissue the 2014 Ravenswood Permit Does Not Meet the Requirements of the Water Withdrawal Permitting Law

We understand that the permit DEC plans to issue to Helix is identical to the permit invalidated by the Appellate Division Second Department in its decision issued January 10, 2018, in *Sierra Club v. Martens*.[2] DEC's plan to reissue the identical permit DEC issued to TC Ravenswood LLC on March 7, 2014 (the "2014 Permit") is surprising because the court's decision established that the 2014 Permit does not meet the requirements of the WWPL. The court found that, contrary to the arguments DEC made in the case, DEC has discretion in setting the terms and conditions of the 2014 Permit.

1 https://www.dec.ny.gov/enb/20181003_reg2.html#263040002400056.
2 158 A.D.3d 169 (2nd Dep't 2018).

The court stated that whether 'the proposed water withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures' (ECL 15-1503[2][g]) will almost certainly vary from operator to operator, or from water source to water source. . . . Whether a condition is 'appropriate' for a given operator is a matter that falls within the DEC's expertise and involves the exercise of judgment, and, therefore, implicates matters of discretion."[3] Because the court found that DEC did have discretion in setting appropriate terms and conditions of the 2014 Permit under the provisions of the WWPL, the court invalidated the permit on the ground that issuance of the 2014 Permit was not exempt from review under the State Environmental Quality Review Act (SEQRA) as a non-discretionary act.

The record in the court proceeding shows that DEC did not exercise its discretion and make any of the eight determinations required by ECL 15-1503.2 before issuing the 2014 Permit and thus was not in a position to use those determinations to set appropriate permit terms and conditions tailored to the operations of the Ravenswood Generating Station as required by ECL 15-1503.4 in the 2014 Permit. DEC took the position in the court proceeding that the making of such determinations is not required for issuance of a permit to an existing water user. The court's decision makes clear that such determinations are required. Thus it is apparent that reissuance of the 2014 Permit will not be in compliance with the WWPL. DEC must make the determinations required by ECL 15-1503.2 and 6 NYCRR 601.11(c)(1)-(8), and must use those determinations to set appropriate terms and conditions before issuing a new water withdrawal permit to Helix.

a. The WWPL Requires that DEC Determine Cumulative Adverse Effects

Among the determinations DEC is required to make before issuing a permit to Helix and has not made is the determination required by ECL 15-1503.2(f) regarding cumulative adverse effects of the Ravenswood withdrawal together with other large withdrawals on water dependent natural resources in the Hudson River estuary. To make this determination, DEC must examine the cumulative impacts of all the power plants and other large water users operating in the Hudson River estuary.

A 2011 Sierra Club report notes that 17 power plants affect the Hudson River estuary:

> A total of 17 power plants using once-through cooling are located in the region: four on the Hudson River, eight on the Long Island Sound and five in New York Harbor. . . . All these plants use exorbitant amounts of water. . . . The Hudson River plants have a combined intake capacity of nearly 5 billion gallons per day; the Long Island Sound plants have a combined intake capacity exceeding 5 billion gallons per day; and the New York Harbor and East River plants have a combined intake capacity of more than 3.5 billion gallons per day. Altogether,

[3] Id. at 177.

> the 17 plants can withdraw almost 14 billion gallons per day from the two estuaries and the harbor. . . .
>
> Because of these waters' importance as spawning and nursery grounds, it is unsurprising that entrainment of eggs and larvae occur in astronomic numbers. . . .
>
> [P]ower plants using once-through cooling on the Hudson have a huge, detrimental impact on the ecology of the estuary—and this impact goes well beyond the loss of large numbers of individual fish. In a 2007 report, New York State found that the cumulative impact of multiple facilities on the river substantially reduces the population of young fish in the entire river. In certain years those plants have entrained between 33 and 79 percent of the eggs and larvae spawned by striped bass, American shad, Atlantic tomcod and five other important species. Over the time the plants have been operating, the ecology of the Hudson River has been altered, with many fish species in decline and populations becoming less stable. Of the 13 key species subject to intensive study, ten have declined in abundance, some greatly. Power plants have played a considerable role in that decline.[4]

As the Sierra Club report notes, five power plants operate in the estuary itself. DEC has issued water withdrawal permits to these five plants to take a total of almost 4.1 billion gallons per day ("GPD") from the harbor estuary. Four of these plants take water from the East River. In addition to the water withdrawal permit DEC plans to issue to Helix for operation of the Ravenswood plant to take up to 1.528 billion GPD from the East River, DEC has issued a permit to US Power for its Astoria Generating Station in Queens to take up to 1.454 billion GPD from the East River on September 24, 2014, DEC has issued a permit to Consolidated Edison for its East River Generating Station to take up to 323.6 million GPD from the East River on November 21, 2014, and DEC has issued a permit to Brooklyn Navy Yard Cogeneration Partners for its Brooklyn Navy Yard plant to take up to 72 million GPD from the East River on February 27, 2015. The combined total amount of the maximum withdrawals from the East River authorized at these four plants is almost 3.4 billion GPD. When the 712.8 million GPD authorized by the permit DEC issued to Arthur Kill Generation LLC for withdrawals by its Arthur Kill Generating Station from Arthur Kill on September 14, 2016 is added to this amount the combined withdrawals from the harbor estuary authorized by the permits issued to these five plants is a staggering 4 billion GPD.

The cumulative impact of the withdrawals from Hudson River estuary needs to be evaluated. Gilbert Hawkins, past president of the Hudson River Fishermen's Association, a co-petitioner with the Sierra Club in the *Martens* case, points out in his

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[4] *Giant Fish Blenders: How Power Plants Kill Fish & Damage Our Waterways*, Sierra Club, July 2011, 16-17, citing DEC's New York State Water Quality Report 2006 (published 2007). https://vault.sierraclub.org/pressroom/media/2011/2011-08-fish-blenders.pdf

affidavit in the case that the East River is one of the main fish migration routes between the Atlantic Ocean and both the Hudson River and Long Island Sound.[5] He says, "Because the East River is constantly filled with moving water, it is a very attractive location for fish. There are two tides a day in the East River, which means that there are strong currents in the river four time a day—the incoming and outcoming flows for each tide. Millions of fish are riding on these flows in the migratory seasons."[6] The ecological significance of the Hudson River estuary is described in above-referenced Sierra Club report:

> The ecological influence of the Hudson estuary extends far into the Atlantic Ocean and along the coast. For vast schools of migratory sturgeon, herring, blue crab, mackerel and striped bass, the Hudson is a nearly unimpeded corridor from the Atlantic to their ancestral spawning grounds. These fish support a 350-year-old recreational and commercial fishery along the Atlantic coast that's worth hundreds of millions of dollars.[7]

The impingement and entrainment of fish and other aquatic organisms by the Ravenswood plant and the other estuary power plants has been documented over the years in studies conducted by the plants pursuant to their State Pollution Discharge Elimination System ("SPDES") permits. The most recent studies for the Ravenwood plant, the 2005-2006 studies, are summarized in the Biological Fact Sheet issued in conjunction with the renewal of the plant's SPDES permit in 2012:[8]

> The most recent Impingement and Entrainment studies were conducted from March 2005 to February 2006. About 25,850 fish were impinged over the year, ... Approximately 149.7 million eggs, larvae and juveniles were entrained through the station. . . . . Post-yolk-sac larvae (51.2%) and eggs (47.0%) were the main life stages found in the entrainment collections.[9]

The following table summarizes impingement and entrainment by the five power plants in New York harbor based on I&E data shown in their biological monitoring reports.[10] The I&E date shown on the table is the date of the I&E studies described in the

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[5] Record 271.

[6] Id.

[7] *Id.* at 14-15.

[8] According to DEC's permit applications database, TC Ravenswood's 2017 application to renew its SPDES permit is "Suspended Indefinitely as of 04/25/2017." http://www.dec.ny.gov/cfmx/extapps/envapps/index.cfm?view=detail&applid=1113616c [last accessed 11/11/18].

[9] *Sierra Club v. Martens* record on appeal at 155-156. Record linked at http://treichlerlawoffice.com/water/ravenswood/appeal/record_072715.pdf .

[10] The biological monitoring report for Ravenswood is the 2012 report quoted above. The reports for Arthur Kill, Astoria and East River are the reports linked on the GRACE Communication Foundation website, http://www.gracelinks.org/maps/homepage/post/422 [accessed 11/12/18]. The I&E numbers shown in the above table correspond to the I&E numbers described in the biological monitoring reports linked on the website, but do not always correspond to the numbers shown in the tables on the website.

biological monitoring reports. The low entrainment and impingement data for Ravenswood, the largest power plant operating in the estuary, is highly anomalous compared to the figures for the other plants shown in the table, particularly when the size of Ravenswood's withdrawals are taken into account. This anomaly needs to be explained.

Table 1. Impingement and Entrainment by New York Harbor Power Plants

Generating Station	*Permit GPD*	*Entrainment (annual)*	*Impingement (annual)*	*I&E Date*
Arthur Kill	712,800,000	2,600,000,000	7,380,000	2007
Astoria	1,454,000,000	629,800,000	3,100,000	2007
Brooklyn Navy Yard	72,000,000	38,998,201	0	NA
East River	323,600,000	1,340,000,000	1,500,000	2006
Ravenswood	1,528,000,000	149,700,000	25,850	2006
Total	4,090,400,000	4,758,498,201	12,005,850	

b. The WWPL Requires that DEC Determine Environmentally Sound and Economically Feasible Water Conservation Measures

Another determinations DEC is required to make and has not made for the Ravenswood water withdrawal is the determination required by ECL 15-1503.2(g) as to whether the withdrawal "will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures."

Closed-cycle cooling is an obvious water conservation measure that must be evaluated for the Ravenswood plant pursuant to ECL 15-1503.2(g). A once-through cooling system withdraws water from the source waterbody, runs it through the condenser system, and then discharges it without recirculation. In contrast, closed-cycle cooling -systems recirculate and reuse cooling water. A 2010 report on the impact of once-through cooling systems in New York power plants concludes, "Closed-cycle cooling is a proven technology that reduces power plant water intake by up to 98 percent, thereby reducing the damage to aquatic life by up to 98 percent."[11] Closed-cycle cooling is required by DEC's 2011 guidance on Best Available Technology ("BTA") for Cooling Water Intake Structures for new and repowered electric generation plants.[12]

Were closed-cycle cooling to be implemented at each of the power plants and large industrial users impacting the Hudson River estuary, the cumulative impacts of the

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The Brooklyn Navy Yard entrainment data is taken from the table on the GRACE website. No biological monitoring report is linked for this plant.

[11] *Reeling in New York's Aging Power Plants: The Case for Fish-Friendlier Power*, Kyle Rabin, Network for New Energy Choices, June 2010, http://www.gracelinks.org/141/reeling-in-new-york-s-aging-power-plants .

[12] "BTA for Cooling Water Intake Structures," July 10, 2011, http://www.dec.ny.gov/docs/fish_marine_pdf/btapolicyfinal.pdf [accessed July 5, 2015].

plants withdrawals on water dependent natural resources in the estuary would be tremendously reduced.

2. The Inclusion of Conditions from the Ravenswood SPDES Permit Is Not a Substitute for Making the Determinations Required by the WWPL

DEC's inclusion of a condition in the 2014 permit incorporating the biological monitoring requirements of Ravenswood's SPDES permit is not a substitute for making the determinations required by ECL 15-1503.2. Although 6 NYCRR 601.7(f) provides that DEC will review an initial water withdrawal permit application "in coordination with the SPDES or other permit program, particularly with respect to any pending permit renewals," neither this section nor any other section of the WWPL and regulations authorize incorporating provisions from a SPDES permit as a means of fulfilling DEC's obligations to make the determinations required in ECL 15-1503.2.

The New York legislature enacted the new water withdrawal permitting law requiring extensive water conservation measures in 2011 because it perceived that DEC did not have adequate authority under existing laws, such as the SPDES law, to protect New York's water resources. Almost every major water user in the state already has a SPDES permit. If water withdrawals could be adequately regulated under the SPDES program, the legislature would not have seen a need for a new permitting program imposing significant water conservation requirements. The WWPL and the SPDES law have different objectives and different requirements. The standards to be applied is issuing a SPDES permit are not the same as the standards that apply under the WWPL and regulations, and DEC must make a separate *de novo* determination regarding the benefits of closed-cycle cooling pursuant to the requirements of the WWPL. The vast majority of persons subject to the new law are existing users. DEC's continued refusal to effectively apply the requirements of the WWPL to existing users effectively nullifies the purposes for which the law was enacted.

3. Sufficient Information to Make the Required Determinations Must Be Included in the Application Materials

Insufficient information is contained in the Helix permit application to enable DEC to make the determinations required ECL 15-1503.2. The water withdrawal regulations require that information necessary to make the determinations required by ECL 15-1503.2 be included in the application materials for a water withdrawal permit. 6 NYCRR 601.10(k). The Helix application for a transfer of the 2014 Permit to Helix was submitted on August 2, 2017, five months before the appeals court invalidated the 2014 Permit. The only modification DEC required Helix to make to its transfer application was to require that Helix complete a full Environmental Assessment Form rather than the short form EAF Helix originally submitted. After submission of this form, Helix's transfer application was accepted as sufficient on September 25, 2018, more than eight months after the court's decision. DEC accepted as sufficient the project justification included with Helix's 2017 transfer application even though it was a resubmission of the project justification submitted by TransCanada with its original permit application in 2013. This project justification does not meet the requirements of 6 NYCRR 601.10(k). It does not show:

(1) that any alternatives to the plant's existing once-through cooling system were evaluated;

(2) that alternatives such as closed-cycle cooling could not reduce the size of the plant's water withdrawals;

(3) why once-through cooling is reasonable given the dramatic reductions in water use that would result from closed-cycle cooling;

(4) why once-through cooling is environmentally sound and economically feasible; or

(5) that the plant's tremendous water withdrawals will result in no significant individual or cumulative adverse environmental impacts.

The project justification submitted by Helix explains the operation of the Ravenswood once-through cooling system and states that efforts that have been made at the plant to use variable speed pumps and moveable screens to reduce the amounts of water withdrawn from the East River in order to reduce fish impingement and entrainment by the plant's water intake system,[13] but no information is included regarding impingement and entrainment numbers before and after the new technology was installed and no alternative technologies are evaluated for their impingement and entrainment. Nor is there any evaluation of the effects of impingement and entrainment by the plant on water dependent natural resources in the Hudson River estuary or of the cumulative effects of impingement and entrainment by all the power plants and industrial facilities taking water from the estuary.

Because Helix's application does not provide sufficient information to make the determinations required in the WWPL and accompanying regulations, DEC needs to require that Helix amend its water withdrawal permit application to provide the necessary data and analysis.

4. Preparation of a Full Environmental Impact Statement Is Required

When DEC issued the 2014 Permit, DEC claimed that the issuance of water withdrawal permits to existing users was exempt from review under the State Environmental Quality Review Act, ECL Article 8, ("SEQRA") because it claimed it had no discretion under the WWPL to set terms and conditions tailored to the individual user for such permits. Now that the court has ruled that DEC does have discretion in setting terms and conditions of permits issued to existing water users and invalidated the 2014 Permit because DEC did not conduct a review under SEQRA of the impacts of issuing a permit to TransCanada, DEC now avoids conducting an effective SEQRA review by

[13] Impingement refers to the entrapment of adult fish and larger organisms against a power plant's water intake screens. Impinged organisms usually die or suffer injury as a result of starvation, exhaustion, descaling by screen wash sprays, or asphyxiation when forced against a screen by velocity forces which prevent proper gill movement for prolonged periods of time. Entrainment refers to organisms being carried through a power plant's condenser system. The organisms that become entrained are relatively small, including the eggs and larvae of larger organisms.

issuing a determination that reissuance of the 2014 Permit will have no environmental impact. This determination flies in the face of the tremendous size of the withdrawals being permitted for the Ravenswood plant. As noted above, these withdrawals are the largest withdrawals DEC has permitted to date under the WWPL.

DEC has classified its action in reissuing the 2014 Permit as a Type I action under SEQRA. Type I actions are actions that because of their size, scope or type, are determined to be more likely to have adverse environmental consequences, and therefore require the preparation of a full environmental impact statement ("EIS"). An EIS must be prepared if a proposed action "may include the potential for at least one significant adverse environmental impact." 6 NYCRR 617.7(a)(1). Conversely, to determine that an EIS will not be required for an action, "the lead agency must determine either that there will be no adverse environmental impacts or the identified adverse environmental impacts will not be significant." 6 NYCRR 617.7(a)(2). As explained in 6 NYCRR 617.4(a)(1):

> The purpose of the list of type I actions in this section is to identify, for agencies, project sponsors and the public, those actions and projects that are more likely to require the preparation of an EIS than unlisted actions. All agencies are subject to this type I list. . . . . **[T]he fact that an action or project has been listed as a type I action, carries with it the presumption that it is likely to have a significant adverse impact on the environment and may require an EIS** [emphasis added].

The SEQRA regulations list "a project or action that would use ground or surface water in excess of 2,000,000 gallons per day," as a category of Type I actions that, because of their size, are likely to have a significant adverse impact. 6 NYCRR 617.4(b)(6)(ii). The water withdrawal permit proposed to be issued to Ravenswood to take up to 1,528,000,000 gallons per day, involves withdrawals that are 764 times the Type I threshold provided in Section 617.4(b)(6)(ii). In addition to being 764 times as large as a type of action included on the list of Type I actions, the Ravenswood withdrawals meet the criteria set forth in 6 NYCRR 617.7(c) for determining whether unlisted and Type I actions have a significant adverse impact on the environment. These criteria include "the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources." 6 NYCRR 617.7(c)(ii). As documented in the plant's own impingement and entrainment studies, the plant's massive water withdrawals through its cooling water intake structures remove and destroy large quantities of fish and other aquatic life from the estuary. These massive withdrawals substantially interfere with the movement of resident and migratory fish in the estuary. Among the many species impacted, the withdrawals have substantial adverse impacts on Atlantic sturgeon, which is an endangered species. Thus it is clear that the destruction of

aquatic life by the cooling water intake structures of the Ravenswood plant has a significant adverse impact under the SEQRA standards.

The Negative Declaration states that "the facility employs a fish-friendly return system to increase the survivability of fish that become impinged on the intake screen," but does not explain why the plant's system is "fish-friendly." The Negative Declaration also states that the plant's "current SPDES permit also required the installation of variable speed pumps on each unit. Variable speed pumps allow for the reduction in cooling water used during reduced power demand and colder source water conditions. In addition, the traveling screens on all the units were required to be upgraded." These statements are identical to statements contained in the negative declaration issued for the renewal of the plant's SPDES permit on December 11, 2006. The Negative Declaration repeats the assertion in the 2006 negative declaration for the SPDES permit that "[a]ll of the above measures [i.e. the variable speed pumps and the screen upgrades] will result in the reduction of impingement mortality by 90% and entrainment mortality by 65% over baseline conditions," and states that "these reductions will result in positive environmental benefits to the aquatic resources of the East River."

The Negative Declaration does not evaluate whether the projected reductions in fish impingement and entrainment beyond those documented in the plant's 2005-2006 impingement and entrainment studies have been achieved. The results of the verification monitoring required in the plant's most recent SPDES permit, its 2012 SPDES permit are not described in the Negative Declaration. The Negative Declaration does not offer any data on what the plant's actual fish entrainment and impingement amounts are estimated to be or consider alternative technologies that might further minimize fish entrainment and impingement such as closed cycle cooling. Nor does the Negative Declaration consider the cumulative impacts of the Ravenswood cooling water intake system and the other water withdrawals from the estuary.

In these circumstances, it is clear that DEC has not taken a "hard look" at the impacts of the Ravenswood plant as required by Section 6 NYCRR 617.7(b) of the SEQRA regulations and the many cases interpreting the "hard look" standard.[14] For this reason, DEC must revoke the Negative Declaration and require that a full EIS be prepared.

5. A New Coastal Assessment Form Must Be Prepared

The Coastal Assessment Form (CAF) completed by DEC on September 13, 2018 for reissuance of the 2014 Permit contains incorrect responses to two important questions on the form. DEC incorrectly states that reissuance of the permit will have no significant impacts on "significant fish or wildlife habitats" in its response to question C.1 (a) of the form, and incorrectly states that reissuance of the permit will have no significant impacts on "commercial or recreational use of fish and wildlife resources" in response to question C.2 of the form. Had DEC answered these questions correctly, that would have resulted in the action being analyzed in more detail and possibly modified before a certification of consistency was issued pursuant to 19 NYCRR Part 600 or before DEC made its SEQRA

[14] E.g. *Matter of Kahn v. Pasnik*, 90 N.Y.2d 569 (1997).

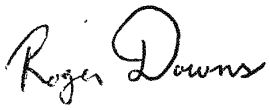
determination. If DEC's action in reissuing the 2014 Permit had not been certified as consistent with the state and city coastal policies, it could not have been undertaken. For this reason, a new CAF must be prepared and submitted to the New York State Department of State.

* * *

For the reasons set forth above, we urge DEC to deny the Helix application, prepare a new draft permit revoke the negative declaration, and require a draft environmental impact statement (EIS).

Thank you for your consideration of these comments.

Sincerely,



Roger Downs

Conservation Director
Sierra Club Atlantic Chapter
744 Broadway, Albany, NY 12207
(518) 426-9144

A-524

LETTER FROM MARY FINNERAN TO GOVERNOR ANDREW CUOMO OPPOSING 2019 PERMIT, DATED NOVEMBER 17, 2018 [A-524 - A-527]

CCU CORRESPONDENCE #: 201804295
GOVERNOR'S NUMBER: 613009A

NYSDEC
NOV 26 2018
Division of Environmental Permits

Correspondent:
MARY FINNERAN
104 JEROME AVENUE
CAIRO, NY 12413

ADDRESSED TO: Governor
CORRESPONDENCE DATE: 11/17/2018

SUBJECT:
EMAIL TO GOVENOR CUOMO OPPOSING THE WATER WITHDRAWAL PERMIT FOR THE RAVENSWOOD PLANT

ROUTE DATE	ACTION	ROUTE TO	DUE DATE
~~11/19/2018~~ 11/26/2018	Reply Direct	~~ZAHN~~ THRU BALLANTYNE Whitehead	~~11/29/2018~~ 12/5/2018

Notes:
RESPOND BY LETTER ONLY [NOT EMAIL] & BC PDF OF REQUIRED SIGNED RESPONSE TO CCU FOR ROUTING TO THE GOVERNORS OFFICE

CC:

New York State
Department Of Environmental Conservation

A-526

Zahn thru Ballantyne-RD

Spain, Theresa (DEC)

From: Elizabeth Reisinger <Elizabeth.Reisinger@Exec.ny.gov>
Sent: Monday, November 19, 2018 4:12 PM
To: dec.sm.CCU
Subject: Correspondence [Finneran, Mary] #613009A

*** Please Do Not Reply to this e-mail Message.***
*** Any questions regarding this correspondence should be directed to the staff person listed below as the 'Please Respond To' contact. ***

Ms. Mary Finneran
104 Jerome Ave.
Cairo, New York 12413
Phone 518-965-2935
msfinn123@yahoo.com
County _Other New York
Addressed to: Governor

Email Subject: Ravenswood water withdrawal permit

Issue 1 40010 Dept. of Environmental Conservation

Correspondence Number: 613009A
Date Of Correspondence: 11/17/2018
Date Received: 11/17/2018
Date Entered: 11/17/2018
Referred To: DEC
Date Referred:

Routing History:

11/19/2018 04:12 PM (Routed By --> Elizabeth Reisinger) (Routed Via Outside Agency Email to --> DEC) This correspondence has been acknowledged and is being forwarded for further action from your agency. Please provide a copy of response or notation of any other action recommended or taken. -- Please respond to Elizabeth Reisinger

Incoming Correspondence:

Dear Governor Cuomo,

Please see that the water withdrawal permit for the Ravenswood plant would not be granted until and unless all environmental considerations have been reviewed. (and that it be denied if environmental review warrants). As you

should know the Title II exemption was reversed by state supreme court, however the DEC, in response, declared the Title I determination to have a negative declaration. I have copied my comment to Kent Sanders here for your consideration, today is the deadline for comments, but to think that 1.5 BILLION gallons of water withdrawn for cooling and then reintroduced at a higher temperature would have no environmental effects on the waters of the East River is beyond my imagination. Fish will die, fishermen will lose.

"Dear Kent Sanders, Please know I am writing this on November 17th, the date given as the deadline for commentary on the Ravenswood water withdrawal permit. On a recent call you told me that you do not see that withdrawing over 1.5 billion gallons a day for cooling the Ravenswood plant to be cause for any environmental concern. Please know that I am sickened by this hubris, but don't wish to resort to ad hominem comments.

A state appeals court decided against the DEC regarding making this a Title II exemption due to the environmental concerns. However the decision to give this now Title I case a negative declaration is a slap in the face to the court and to the people of NY.

It is your professional and personal responsibility to see that before issuing a permit to Ravenswood for water withdrawal, the largest ever in NYS history, that a proper and full environmental review is completed. Please reverse your negative declaration. Fair notice that I will be sharing my words with others, including the governor.

Thank you.

Mary T. Finneran
104 Jerome Ave.
Cairo, NY"

Again, Governor Cuomo, Please do everything within your power to see that the environment of all NYS is protected. Oh and while I have your attention (or your aid's attention anyway) be a real climate leader and stop any and all natural gas projects in NYS, including CPV and Cricket Valley. Thank you. Sincerely, Mary Finneran, Cairo, NY

A-528

EMAIL EXCHANGE BETWEEN DEC AND RAVENSWOOD IN DECEMBER 2018

Sanders, Kent P (DEC)

From: Tanja Grzeskowitz <Tanja.Grzeskowitz@RGS-NYC.com>
Sent: Tuesday, December 11, 2018 3:40 PM
To: Sanders, Kent P (DEC)
Subject: RE: Water Withdrawal Decision Due Date

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Kent,

Yes, we are fine with the suspension.

Thank you,
Tanja

From: Sanders, Kent P (DEC) [mailto:kent.sanders@dec.ny.gov]
Sent: Monday, December 10, 2018 2:19 PM
To: Tanja Grzeskowitz
Subject: Water Withdrawal Decision Due Date

Tanja,
My records show that we had a Decision due date of November 9, 2018 for the Ravenswood Water withdrawal Permit. Obviously the 30 day extension to the Public comment period pushed us past that date.
As the Department works to review the Public Comments, I would like to request a suspension of timeframes by mutual consent under Part 621.14(a).
Sincerely,
Kent P. Sanders

Deputy Chief Permit Administrator
Div. of Environ. Permits – NYSDEC
625 Broadway, Albany

COMPLETED FULL ENVIRONMENTAL ASSESSMENT FORM, INCLUDING AMENDED NEGATIVE DECLARATION, DATED FEBRUARY 14, 2019 [A-529 - A-557]

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either "Yes" or "No". If the answer to the initial question is "Yes", complete the sub-questions that follow. If the answer to the initial question is "No", proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Sponsor Information.

Name of Action or Project: Application for Water Withdrawal Permit (DEC ID# 2-6304-00024-00054)		
Project Location (describe, and attach a general location map): Ravenswood cooling water intakes; located on the shoreline of the East River. North of the Queensboro Bridge and south of the Roosevelt Island Bridge		
Brief Description of Proposed Action (include purpose or need): The Ravenswood Generating Station (RGS), an electric generating facility consisting of three (3) conventional boilers (Units 10/20/30), a combined cycle unit (Unit 40), and three (3) operational simple cycle units (GT1, GT10, GT11), is located in Long Island City, New York and is situated along the bank of the upper East River, across from Roosevelt Island. The existing water withdrawal system was commissioned in 1963 and is used to supply once through cooling water for Units 10, 20 and 30. Circulating Water Pumps (CWP) take suction from the East River and circulate water through the condenser to condense exhausted steam from the low pressure turbine. Water withdrawn is return to the East River via SPDES permit NY 0005193. The facility holds a valid SPDES permit for discharge of cooling and process water from permitted outfalls. Supplemental technology includes Variable Speed Pumps (VSP) and Vacuum Priming Systems (VPS) on the Cooling Water Intake Structures (CWIS). This technology is used to reduce impingement and entrainment of aquatic organisms by incremental reductions in cooling water intake flows by operating the circulating water pumps at less than full capacity. For 2017-2018, the daily average water withdrawal from the East River was 371 million gallons per day (MGD) and the maximum day withdrawal was 1358 MGD. As of August 2, 2017, there have been no modifications or changes to the water withdrawal system.		
Name of Applicant/Sponsor: Helix Ravenswood, LLC	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Project Contact (if not same as sponsor; give name and title/role): Tanja Grzeskowitz - Compliance Manager	Telephone: E-Mail:	
Address: 38-54 Vernon Blvd.		
City/PO: Long Island City	State: New York	Zip Code: 11101
Property Owner (if not same as sponsor):	Telephone: 718.706.2705 E-Mail: Tanja.grzeskowitz@ethosenergygroup.com	
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. ("Funding" includes grants, loans, tax relief, and any other forms of financial assistance.)		
Government Entity	**If Yes: Identify Agency and Approval(s) Required**	**Application Date (Actual or projected)**
a. City Council, Town Board, or Village Board of Trustees ☐Yes☑No		
b. City, Town or Village Planning Board or Commission ☐Yes☑No		
c. City Council, Town or Village Zoning Board of Appeals ☐Yes☑No		
d. Other local agencies ☐Yes☑No		
e. County agencies ☐Yes☑No		
f. Regional agencies ☐Yes☑No		
g. State agencies ☑Yes☐No	New York State Department of Environmental Conservation	
h. Federal agencies ☐Yes☑No		
i. Coastal Resources. *i.* Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? ☑Yes☐No *ii.* Is the project site located in a community with an approved Local Waterfront Revitalization Program? ☑Yes☐No *iii.* Is the project site within a Coastal Erosion Hazard Area? ☐Yes☑No		

C. Planning and Zoning

C.1. Planning and zoning actions.	
Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? • If Yes, complete sections C, F and G. • If No, proceed to question C.2 and complete all remaining sections and questions in Part 1	☑Yes☐No
C.2. Adopted land use plans.	
a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located?	☐Yes☑No
If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?	☐Yes☐No
b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) If Yes, identify the plan(s): Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park	☑Yes☐No
c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? If Yes, identify the plan(s):	☐Yes☑No

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. ☐ Yes ☑ No
If Yes, what is the zoning classification(s) including any applicable overlay district?

b. Is the use permitted or allowed by a special or conditional use permit? ☑ Yes ☐ No

c. Is a zoning change requested as part of the proposed action? ☐ Yes ☑ No
If Yes,
i. What is the proposed new zoning for the site?

C.4. Existing community services.

a. In what school district is the project site located? Queens, District 30

b. What police or other public protection forces serve the project site?
NYPD, US Coast Guard

c. Which fire protection and emergency medical services serve the project site?
FDNY

d. What parks serve the project site?

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Industrial, Commercial

b. a. Total acreage of the site of the proposed action? 0 acres
b. Total acreage to be physically disturbed? 0 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? 26 acres

c. Is the proposed action an expansion of an existing project or use? ☐ Yes ☑ No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % Units:

d. Is the proposed action a subdivision, or does it include a subdivision? ☐ Yes ☑ No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)

ii. Is a cluster/conservation layout proposed? ☐ Yes ☐ No
iii. Number of lots proposed?
iv. Minimum and maximum proposed lot sizes? Minimum Maximum

e. Will proposed action be constructed in multiple phases? ☐ Yes ☑ No
i. If No, anticipated period of construction: N/A months
ii. If Yes:
- Total number of phases anticipated
- Anticipated commencement date of phase 1 (including demolition) month year
- Anticipated completion date of final phase month year
- Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases:

f. Does the project include new residential uses? ☐Yes ☑No
If Yes, show numbers of units proposed.

	One Family	Two Family	Three Family	Multiple Family (four or more)
Initial Phase				
At completion of all phases				

g. Does the proposed action include new non-residential construction (including expansions)? ☐Yes ☑No
If Yes,
i. Total number of structures _____
ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length
iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? ☐Yes ☑No
If Yes,
i. Purpose of the impoundment: _____
ii. If a water impoundment, the principal source of the water: ☐ Ground water ☐ Surface water streams ☐ Other specify: _____
iii. If other than water, identify the type of impounded/contained liquids and their source. _____
iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres
v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length
vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite) ☐Yes ☑No
If Yes:
i. What is the purpose of the excavation or dredging? _____
ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?
- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____
iv. Will there be onsite dewatering or processing of excavated materials? ☐Yes ☐No
If yes, describe. _____
v. What is the total area to be dredged or excavated? _____ acres
vi. What is the maximum area to be worked at any one time? _____ acres
vii. What would be the maximum depth of excavation or dredging? _____ feet
viii. Will the excavation require blasting? ☐Yes ☐No
ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? ☐Yes ☑No
If Yes:
i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will proposed action cause or result in disturbance to bottom sediments? ☐ Yes ☐ No
If Yes, describe:

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation? ☐ Yes ☐ No
If Yes:

- acres of aquatic vegetation proposed to be removed:
- expected acreage of aquatic vegetation remaining after project completion:
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access):
- proposed method of plant removal:
- if chemical/herbicide treatment will be used, specify product(s):

v. Describe any proposed reclamation/mitigation following disturbance:

c. Will the proposed action use, or create a new demand for water? ☐ Yes ☑ No
If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? ☐ Yes ☐ No
If Yes:

- Name of district or service area:
- Does the existing public water supply have capacity to serve the proposal? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No
- Do existing lines serve the project site? ☐ Yes ☐ No

iii. Will line extension within an existing district be necessary to supply the project? ☐ Yes ☐ No
If Yes:

- Describe extensions or capacity expansions proposed to serve this project:
- Source(s) of supply for the district:

iv. Is a new water supply district or service area proposed to be formed to serve the project site? ☐ Yes ☐ No
If, Yes:

- Applicant/sponsor for new district:
- Date application submitted or anticipated:
- Proposed source(s) of supply for new district:

v. If a public water supply will not be used, describe plans to provide water supply for the project:

vi. If water supply will be from wells (public or private), maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? ☐ Yes ☑ No
If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each):

iii. Will the proposed action use any existing public wastewater treatment facilities? ☐ Yes ☐ No
If Yes:

- Name of wastewater treatment plant to be used:
- Name of district:
- Does the existing wastewater treatment plant have capacity to serve the project? ☐ Yes ☐ No
- Is the project site in the existing district? ☐ Yes ☐ No
- Is expansion of the district needed? ☐ Yes ☐ No

- Do existing sewer lines serve the project site? ☐Yes ☐No
- Will line extension within an existing district be necessary to serve the project? ☐Yes ☐No

  If Yes:
  - Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? ☐Yes ☐No

If Yes:
- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):

_____

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? ☐Yes ☑No

If Yes:

i. How much impervious surface will the project create in relation to total size of project parcel?

_____ Square feet or _____ acres (impervious surface)

_____ Square feet or _____ acres (parcel size)

ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

_____

- If to surface waters, identify receiving water bodies or wetlands: _____
- Will stormwater runoff flow to adjacent properties? ☐Yes ☐No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? ☐Yes ☐No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? ☐Yes ☑No

If Yes, identify:

i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)

_____

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)

_____

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)

_____

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? ☐Yes ☑No

If Yes:

i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) ☐Yes ☐No

ii. In addition to emissions as calculated in the application, the project will generate:
- _____Tons/year (short tons) of Carbon Dioxide (CO_2)
- _____Tons/year (short tons) of Nitrous Oxide (N_2O)
- _____Tons/year (short tons) of Perfluorocarbons (PFCs)
- _____Tons/year (short tons) of Sulfur Hexafluoride (SF_6)
- _____Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflourocarbons (HFCs)
- _____Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? ☐Yes ☑No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? ☐Yes ☑No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust):

_____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? ☐Yes ☑No

If Yes:

i. When is the peak traffic expected (Check all that apply): ☐Morning ☐Evening ☐Weekend ☐Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of semi-trailer truck trips/day: _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? ☐Yes ☐No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe:

_____

vi. Are public/private transportation service(s) or facilities available within ½ mile of the proposed site? ☐Yes ☐No

vii Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? ☐Yes ☐No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? ☐Yes ☐No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? ☐Yes ☑No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other):

_____

iii. Will the proposed action require a new, or an upgrade to, an existing substation? ☐Yes ☐No

l. Hours of operation. Answer all items which apply.

i. During Construction:

- Monday - Friday: n/a
- Saturday: n/a
- Sunday: n/a
- Holidays: n/a

ii. During Operations:

- Monday - Friday: 24 hours
- Saturday: 24 hours
- Sunday: 24 hours
- Holidays: 24 hours

m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? ☐ Yes ☑ No

If yes:

i. Provide details including sources, time of day and duration:

ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? ☐ Yes ☐ No

Describe:

n.. Will the proposed action have outdoor lighting? ☐ Yes ☑ No

If yes:

i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? ☐ Yes ☐ No

Describe:

o. Does the proposed action have the potential to produce odors for more than one hour per day? ☐ Yes ☑ No

If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures:

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? ☐ Yes ☑ No

If Yes:

i. Product(s) to be stored

ii. Volume(s) _____ per unit time _____ (e.g., month, year)

iii. Generally describe proposed storage facilities:

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? ☐ Yes ☑ No

If Yes:

i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? ☐ Yes ☐ No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? ☐ Yes ☑ No

If Yes:

i. Describe any solid waste(s) to be generated during construction or operation of the facility:

- Construction: _____ tons per _____ (unit of time)
- Operation : _____ tons per _____ (unit of time)

ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:

- Construction:
- Operation:

iii. Proposed disposal methods/facilities for solid waste generated on-site:

- Construction:
- Operation:

s. Does the proposed action include construction or modification of a solid waste management facility? ☐ Yes ☑ No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? ☐ Yes ☑ No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? ☐ Yes ☐ No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

☑ Urban ☑ Industrial ☑ Commercial ☐ Residential (suburban) ☐ Rural (non-farm)
☐ Forest ☐ Agriculture ☑ Aquatic ☐ Other (specify): _____

ii. If mix of uses, generally describe: _____

b. Land uses and covertypes on the project site.

Land use or Covertype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	26	26	0
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? ☐Yes ☑No
i. If Yes: explain:

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? ☐Yes ☑No
If Yes,
i. Identify Facilities:

e. Does the project site contain an existing dam? ☐Yes ☑No
If Yes:
i. Dimensions of the dam and impoundment:
- Dam height: _____ feet
- Dam length: _____ feet
- Surface area: _____ acres
- Volume impounded: _____ gallons OR acre-feet

ii. Dam's existing hazard classification:
iii. Provide date and summarize results of last inspection:

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? ☐Yes ☑No
If Yes:
i. Has the facility been formally closed? ☐Yes ☐No
- If yes, cite sources/documentation:

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:

iii. Describe any development constraints due to the prior solid waste activities:

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? ☑Yes ☐No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
The site produces non-acute hazardous waste under a "Small Quantity Generator" status. Waste is contained in a hazardous waste storage area, inventoried weekly, sampled and tested for hazardous materials which are shipped off site to a treatment facility in compliance with RCRA regulations.

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? ☑Yes ☐No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: ☑Yes ☐No
☑ Yes – Spills Incidents database — Provide DEC ID number(s): 1510992,110822,905194,912294,100852
☑ Yes – Environmental Site Remediation database — Provide DEC ID number(s): V00368 , 241119
☐ Neither database

ii. If site has been subject of RCRA corrective activities, describe control measures:

iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? ☑Yes ☐No
If yes, provide DEC ID number(s): C241109, C241086, C241101, C241100, C241099, V0...

iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):
DEC ID# V00368 (Voluntary Cleanup Program) is satisfactorily closed.
DEC ID# 241119 remains with classification "P"
DEC ID# C241109, C241086, C241101, C241100, C241099 are not associated with Ravenswood Generating Station

v. Is the project site subject to an institutional control limiting property uses? ☐Yes ☑No

- If yes, DEC site ID number:
- Describe the type of institutional control (e.g., deed restriction or easement):
- Describe any use limitations:
- Describe any engineering controls:
- Will the project affect the institutional or engineering controls in place? ☐Yes ☑No
- Explain:

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? 25 feet

b. Are there bedrock outcroppings on the project site? ☐Yes ☑No
If Yes, what proportion of the site is comprised of bedrock outcroppings? %

c. Predominant soil type(s) present on project site:

Silt loam	N/A %
loamy sand	N/A %
fine sandy loam	N/A %

d. What is the average depth to the water table on the project site? Average: 7-10 feet

e. Drainage status of project site soils:

☐ Well Drained:	N/A % of site
☐ Moderately Well Drained:	N/A % of site
☐ Poorly Drained	N/A % of site

f. Approximate proportion of proposed action site with slopes:

☐ 0-10%:	N/A % of site
☐ 10-15%:	N/A % of site
☐ 15% or greater:	N/A % of site

g. Are there any unique geologic features on the project site? ☐Yes ☑No
If Yes, describe:

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? ☑Yes ☐No

ii. Do any wetlands or other waterbodies adjoin the project site? ☑Yes ☐No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? ☑Yes ☐No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name Classification
- Lakes or Ponds: Name Classification
- Wetlands: Name Federal Waters, Federal Waters, Federal Waters Approximate Size
- Wetland No. (if regulated by DEC) East River Watershed (0203010201)

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? ☑Yes ☐No

If yes, name of impaired water body/bodies and basis for listing as impaired:
Name - Pollutants - Uses:East River, Lower – Priority Organics;D.O./Oxygen Demand;Aesthetics – Recroation;Fish Consumption;Aqua...

i. Is the project site in a designated Floodway? ☐Yes ☑No

j. Is the project site in the 100 year Floodplain? ☑Yes ☐No

k. Is the project site in the 500 year Floodplain? ☑Yes ☐No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? ☑Yes ☐No
If Yes:

i. Name of aquifer: Sole Source Aquifer Names:Brooklyn-Queens SSA

m. Identify the predominant wildlife species that occupy or use the project site: _____

n. Does the project site contain a designated significant natural community? ☐Yes ☑No

If Yes:

i. Describe the habitat/community (composition, function, and basis for designation): _____

ii. Source(s) of description or evaluation: _____

iii. Extent of community/habitat:

- Currently: _____ acres
- Following completion of project as proposed: _____ acres
- Gain or loss (indicate + or -): _____ acres

o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? ☑ Yes ☐No

Peregrine Falcon

p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? ☐Yes ☑No

q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? ☐Yes ☑No

If yes, give a brief description of how the proposed action may affect that use: _____

E.3. Designated Public Resources On or Near Project Site

a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? ☐Yes ☑No

If Yes, provide county plus district name/number: _____

b. Are agricultural lands consisting of highly productive soils present? ☐Yes ☑No

i. If Yes: acreage(s) on project site? _____

ii. Source(s) of soil rating(s): _____

c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? ☐Yes ☑No

If Yes:

i. Nature of the natural landmark: ☐ Biological Community ☐ Geological Feature

ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____

d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? ☐Yes ☑No

If Yes:

i. CEA name: _____

ii. Basis for designation: _____

iii. Designating agency and date: _____

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places? ☐ Yes ☑ No

If Yes:

i. Nature of historic/archaeological resource: ☐ Archaeological Site ☐ Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based:

_____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? ☑ Yes ☐ No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? ☐ Yes ☑ No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within fives miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? ☐ Yes ☑ No

If Yes:

i. Identify resource: _____

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? ☐ Yes ☑ No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? ☐ Yes ☐ No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

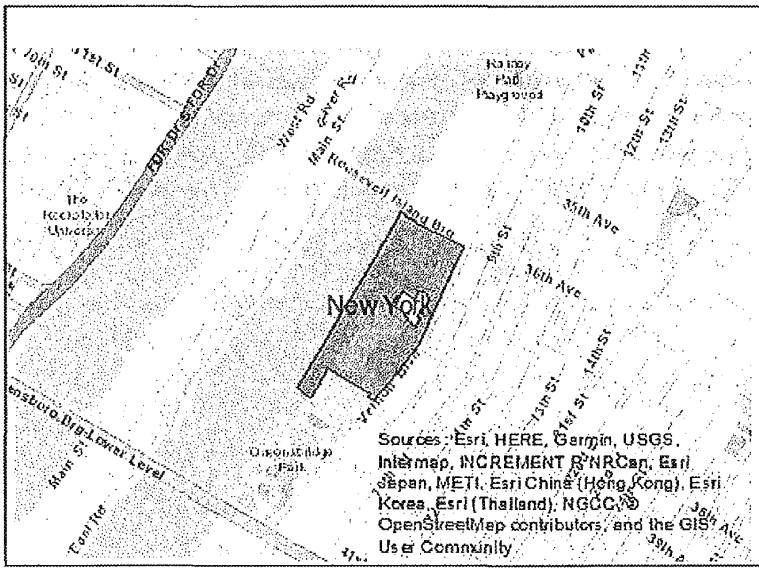
Applicant/Sponsor Name Helix Ravenswood LLC Date 5/4/18

Signature _____ Title Compliance Manager

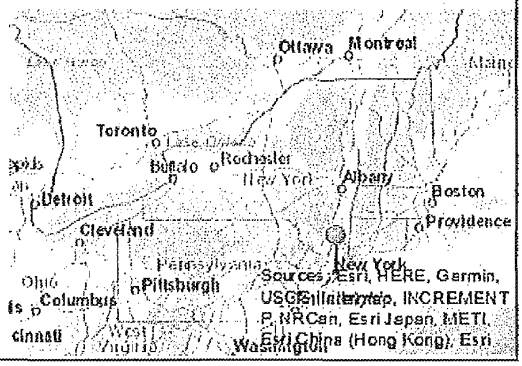
PRINT FORM

EAF Mapper Summary Report

Wednesday, April 25, 2018 4:32 PM

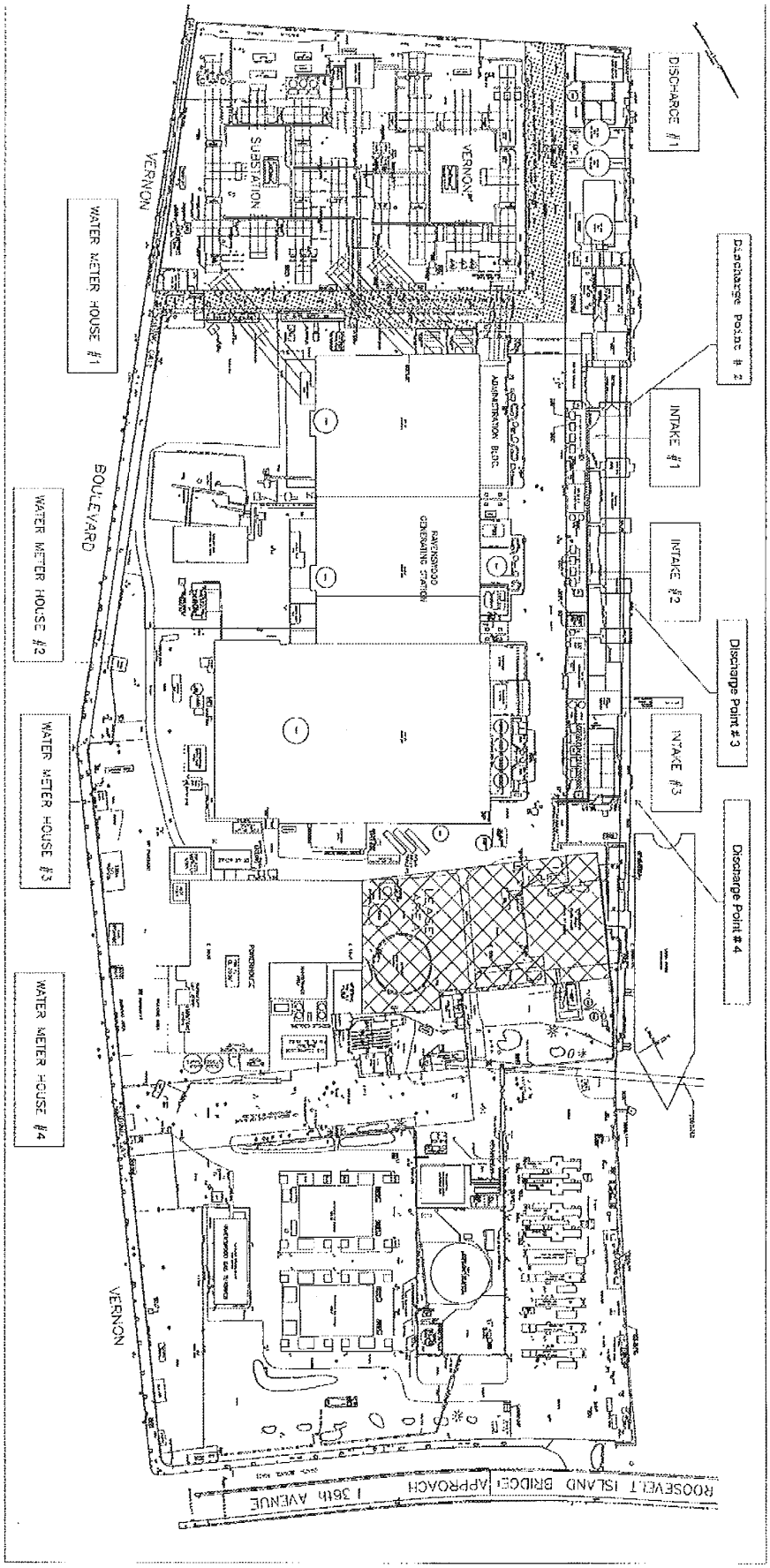


Disclaimer: The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



B.i.i [Coastal or Waterfront Area]	Yes
B.i.ii [Local Waterfront Revitalization Area]	Yes
C.2.b. [Special Planning District]	Yes - Digital mapping data are not available for all Special Planning Districts. Refer to EAF Workbook.
C.2.b. [Special Planning District - Name]	Remediaton Sites:V00368 , Remediaton Sites:241119, NYS Heritage Areas:Harbor Park
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Yes - Digital mapping data for Spills Incidents are not available for this location. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Yes
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Yes
E.1.h.i [DEC Spills or Remediation Site - DEC ID Number]	V00368 , 241119
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	C241109, C241086, C241101, C241100, C241099, V00368 , 241028 , C241028 , 241126, 241119
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:East River, Lower -- Priority Organics;D.O./Oxygen Demand;Aesthetics -- Recreation;Fish Consumption;Aquatic Life

E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	Yes
E.2.k. [500 Year Floodplain]	Yes
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Brooklyn-Queens SSA
E.2.n. [Natural Communities]	No
E.2.o. [Endangered or Threatened Species]	Yes
E.2.o. [Endangered or Threatened Species - Name]	Peregrine Falcon
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	Yes
E.3.i. [Designated River Corridor]	No



Imported	Discharge/Return Points	Withdrawal from East River
Water Meter House # 1-NYC DEP Water Supply	Discharge Point #1-SPDES Outfall 001	Intake # 1- Unit 10 Circulating Water Intake
Water Meter House # 2-NYC DEP Water Supply	Discharge Point #2-SPDES Outfall 008	Intake # 2- Unit 20 Circulating Water Intake
Water Meter House # 3-NYC DEP Water Supply	Discharge Point #3-SPDES Outfall 009	Intake # 3-Unit 30 Circulating Water Intake
Water Meter House #4-NYC DEP Water Supply	Discharge Point #4-SPDES Outfall 010	

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Agency Use Only [If applicable]
Project : 2-6304-00024/00054
Date : 7/6/2018

Part 2 is to be completed by the lead agency. Part 2 is designed to help the lead agency inventory all potential resources that could be affected by a proposed project or action. We recognize that the lead agency's reviewer(s) will not necessarily be environmental professionals. So, the questions are designed to walk a reviewer through the assessment process by providing a series of questions that can be answered using the information found in Part 1. To further assist the lead agency in completing Part 2, the form identifies the most relevant questions in Part 1 that will provide the information needed to answer the Part 2 question. When Part 2 is completed, the lead agency will have identified the relevant environmental areas that may be impacted by the proposed activity.

If the lead agency is a state agency **and** the action is in any Coastal Area, complete the Coastal Assessment Form before proceeding with this assessment.

Tips for completing Part 2:

- Review all of the information provided in Part 1.
- Review any application, maps, supporting materials and the Full EAF Workbook.
- Answer each of the 18 questions in Part 2.
- If you answer "**Yes**" to a numbered question, please complete all the questions that follow in that section.
- If you answer "**No**" to a numbered question, move on to the next numbered question.
- Check appropriate column to indicate the anticipated size of the impact.
- Proposed projects that would exceed a numeric threshold contained in a question should result in the reviewing agency checking the box "Moderate to large impact may occur."
- The reviewer is not expected to be an expert in environmental analysis.
- If you are not sure or undecided about the size of an impact, it may help to review the sub-questions for the general question and consult the workbook.
- When answering a question consider all components of the proposed activity, that is, the "whole action".
- Consider the possibility for long-term and cumulative impacts as well as direct impacts.
- Answer the question in a reasonable manner considering the scale and context of the project.

1. Impact on Land
Proposed action may involve construction on, or physical alteration of, the land surface of the proposed site. (See Part 1. D.1) ☐NO ☐YES
If "Yes", answer questions a - j. If "No", move on to Section 2.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____		☐	☐

Full Environmental Assessment Form
Part 2 - Identification of Potential Project Impacts

Agency Use Only [If applicable]
Project: 2-6304-00024/00054
Date: 7/6/2018

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If "Yes", answer questions a - j. If "No", move on to Section 2.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may involve construction on land where depth to water table is less than 3 feet.	E2d	☐	☐
b. The proposed action may involve construction on slopes of 15% or greater.	E2f	☐	☐
c. The proposed action may involve construction on land where bedrock is exposed, or generally within 5 feet of existing ground surface.	E2a	☐	☐
d. The proposed action may involve the excavation and removal of more than 1,000 tons of natural material.	D2a	☐	☐
e. The proposed action may involve construction that continues for more than one year or in multiple phases.	D1e	☐	☐
f. The proposed action may result in increased erosion, whether from physical disturbance or vegetation removal (including from treatment by herbicides).	D2e, D2q	☐	☐
g. The proposed action is, or may be, located within a Coastal Erosion hazard area.	B1i	☐	☐
h. Other impacts: _____		☐	☐

2. Impact on Geological Features
The proposed action may result in the modification or destruction of, or inhibit access to, any unique or unusual land forms on the site (e.g., cliffs, dunes, minerals, fossils, caves). (See Part 1. E.2.g) ☑ NO ☐ YES
If "Yes", answer questions a - c. If "No", move on to Section 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Identify the specific land form(s) attached: _____	E2g	☐	☐
b. The proposed action may affect or is adjacent to a geological feature listed as a registered National Natural Landmark. Specific feature: _____	E3c	☐	☐
c. Other impacts: _____		☐	☐

3. Impacts on Surface Water
The proposed action may affect one or more wetlands or other surface water bodies (e.g., streams, rivers, ponds or lakes). (See Part 1. D.2, E.2.h) ☐ NO ☑ YES
If "Yes", answer questions a - l. If "No", move on to Section 4.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may create a new water body.	D2b, D1h	☑	☐
b. The proposed action may result in an increase or decrease of over 10% or more than a 10 acre increase or decrease in the surface area of any body of water.	D2b	☑	☐
c. The proposed action may involve dredging more than 100 cubic yards of material from a wetland or water body.	D2a	☑	☐
d. The proposed action may involve construction within or adjoining a freshwater or tidal wetland, or in the bed or banks of any other water body.	E2h	☑	☐
e. The proposed action may create turbidity in a waterbody, either from upland erosion, runoff or by disturbing bottom sediments.	D2a, D2h	☑	☐
f. The proposed action may include construction of one or more intake(s) for withdrawal of water from surface water.	D2c	☑	☐
g. The proposed action may include construction of one or more outfall(s) for discharge of wastewater to surface water(s).	D2d	☑	☐
h. The proposed action may cause soil erosion, or otherwise create a source of stormwater discharge that may lead to siltation or other degradation of receiving water bodies.	D2e	☑	☐
i. The proposed action may affect the water quality of any water bodies within or downstream of the site of the proposed action.	E2h	☑	☐
j. The proposed action may involve the application of pesticides or herbicides in or around any water body.	D2q, E2h	☑	☐
k. The proposed action may require the construction of new, or expansion of existing, wastewater treatment facilities.	D1a, D2d	☑	☐

l. Other impacts: _____		☐	☐

4. Impact on groundwater
The proposed action may result in new or additional use of ground water, or may have the potential to introduce contaminants to ground water or an aquifer. (See Part 1. D.2.a, D.2.c, D.2.d, D.2.p, D.2.q, D.2.t) ☑NO ☐YES
If "Yes", answer questions a - h. If "No", move on to Section 5.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may require new water supply wells, or create additional demand on supplies from existing water supply wells.	D2c	☐	☐
b. Water supply demand from the proposed action may exceed safe and sustainable withdrawal capacity rate of the local supply or aquifer. Cite Source: _____	D2c	☐	☐
c. The proposed action may allow or result in residential uses in areas without water and sewer services.	D1a, D2c	☐	☐
d. The proposed action may include or require wastewater discharged to groundwater.	D2d, E2l	☐	☐
e. The proposed action may result in the construction of water supply wells in locations where groundwater is, or is suspected to be, contaminated.	D2c, E1f, E1g, E1h	☐	☐
f. The proposed action may require the bulk storage of petroleum or chemical products over ground water or an aquifer.	D2p, E2l	☐	☐
g. The proposed action may involve the commercial application of pesticides within 100 feet of potable drinking water or irrigation sources.	E2h, D2q, E2l, D2c	☐	☐
h. Other impacts: _____		☐	☐

5. Impact on Flooding
The proposed action may result in development on lands subject to flooding. (See Part 1. E.2) ☑NO ☐YES
If "Yes", answer questions a - g. If "No", move on to Section 6.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in development in a designated floodway.	E2i	☐	☐
b. The proposed action may result in development within a 100 year floodplain.	E2j	☐	☐
c. The proposed action may result in development within a 500 year floodplain.	E2k	☐	☐
d. The proposed action may result in, or require, modification of existing drainage patterns.	D2b, D2e	☐	☐
e. The proposed action may change flood water flows that contribute to flooding.	D2b, E2i, E2j, E2k	☐	☐
f. If there is a dam located on the site of the proposed action, is the dam in need of repair, or upgrade?	E1e	☐	☐

g. Other impacts: _____		☐	☐

6. Impacts on Air
The proposed action may include a state regulated air emission source. ☐NO ☑YES
(See Part 1. D.2.f., D,2,h, D.2.g)
If "Yes", answer questions a - f. If "No", move on to Section 7.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. If the proposed action requires federal or state air emission permits, the action may also emit one or more greenhouse gases at or above the following levels:			
i. More than 1000 tons/year of carbon dioxide (CO_2)	D2g	☐	☐
ii. More than 3.5 tons/year of nitrous oxide (N_2O)	D2g	☐	☐
iii. More than 1000 tons/year of carbon equivalent of perfluorocarbons (PFCs)	D2g	☐	☐
iv. More than .045 tons/year of sulfur hexafluoride (SF_6)	D2g	☐	☐
v. More than 1000 tons/year of carbon dioxide equivalent of hydrochloroflourocarbons (HFCs) emissions	D2g	☐	☐
vi. 43 tons/year or more of methane	D2h	☐	☐
b. The proposed action may generate 10 tons/year or more of any one designated hazardous air pollutant, or 25 tons/year or more of any combination of such hazardous air pollutants.	D2g	☐	☐
c. The proposed action may require a state air registration, or may produce an emissions rate of total contaminants that may exceed 5 lbs. per hour, or may include a heat source capable of producing more than 10 million BTU's per hour.	D2f, D2g	☐	☐
d. The proposed action may reach 50% of any of the thresholds in "a" through "c", above.	D2g	☐	☐
e. The proposed action may result in the combustion or thermal treatment of more than 1 ton of refuse per hour.	D2s	☑	☐
f. Other impacts: _____		☐	☐

7. Impact on Plants and Animals
The proposed action may result in a loss of flora or fauna. (See Part 1. E.2. m.-q.) ☐NO ☑YES
If "Yes", answer questions a - j. If "No", move on to Section 8.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may cause reduction in population or loss of individuals of any threatened or endangered species, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2o	☑	☐
b. The proposed action may result in a reduction or degradation of any habitat used by any rare, threatened or endangered species, as listed by New York State or the federal government.	E2o	☑	☐
c. The proposed action may cause reduction in population, or loss of individuals, of any species of special concern or conservation need, as listed by New York State or the Federal government, that use the site, or are found on, over, or near the site.	E2p	☑	☐
d. The proposed action may result in a reduction or degradation of any habitat used by any species of special concern and conservation need, as listed by New York State or the Federal government.	E2p	☑	☐

e. The proposed action may diminish the capacity of a registered National Natural Landmark to support the biological community it was established to protect.	E3c	☑	☐
f. The proposed action may result in the removal of, or ground disturbance in, any portion of a designated significant natural community. Source: _____	E2n	☑	☐
g. The proposed action may substantially interfere with nesting/breeding, foraging, or over-wintering habitat for the predominant species that occupy or use the project site.	E2m	☐	☑
h. The proposed action requires the conversion of more than 10 acres of forest, grassland or any other regionally or locally important habitat. Habitat type & information source: _____	E1b	☐	☐
i. Proposed action (commercial, industrial or recreational projects, only) involves use of herbicides or pesticides.	D2q	☑	☐
j. Other impacts: _____		☐	☐

8. Impact on Agricultural Resources
The proposed action may impact agricultural resources. (See Part 1. E.3.a. and b.) ☑NO ☐YES
If "Yes", answer questions a - h. If "No", move on to Section 9.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may impact soil classified within soil group 1 through 4 of the NYS Land Classification System.	E2c, E3b	☐	☐
b. The proposed action may sever, cross or otherwise limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc).	E1a, E1b	☐	☐
c. The proposed action may result in the excavation or compaction of the soil profile of active agricultural land.	E3b	☐	☐
d. The proposed action may irreversibly convert agricultural land to non-agricultural uses, either more than 2.5 acres if located in an Agricultural District, or more than 10 acres if not within an Agricultural District.	E1b, E3a	☐	☐
e. The proposed action may disrupt or prevent installation of an agricultural land management system.	E1 a, E1b	☐	☐
f. The proposed action may result, directly or indirectly, in increased development potential or pressure on farmland.	C2c, C3, D2c, D2d	☐	☐
g. The proposed project is not consistent with the adopted municipal Farmland Protection Plan.	C2c	☐	☐
h. Other impacts: _____		☐	☐

9. Impact on Aesthetic Resources
The land use of the proposed action are obviously different from, or are in sharp contrast to, current land use patterns between the proposed project and a scenic or aesthetic resource. (Part 1. E.1.a, E.1.b, E.3.h.)
☑NO ☐YES
If "Yes", answer questions a - g. If "No", go to Section 10.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Proposed action may be visible from any officially designated federal, state, or local scenic or aesthetic resource.	E3h	☐	☐
b. The proposed action may result in the obstruction, elimination or significant screening of one or more officially designated scenic views.	E3h, C2b	☐	☐
c. The proposed action may be visible from publicly accessible vantage points: i. Seasonally (e.g., screened by summer foliage, but visible during other seasons) ii. Year round	E3h	 ☐ ☐	 ☐ ☐
d. The situation or activity in which viewers are engaged while viewing the proposed action is: i. Routine travel by residents, including travel to and from work ii. Recreational or tourism based activities	E3h E2q, E1c	 ☐ ☐	 ☐ ☐
e. The proposed action may cause a diminishment of the public enjoyment and appreciation of the designated aesthetic resource.	E3h	☐	☐
f. There are similar projects visible within the following distance of the proposed project: 0-1/2 mile ½ -3 mile 3-5 mile 5+ mile	D1a, E1a, D1f, D1g	☐	☐
g. Other impacts: _____		☐	☐

10. Impact on Historic and Archeological Resources
The proposed action may occur in or adjacent to a historic or archaeological resource. (Part 1. E.3.e, f. and g.)
☑NO ☐YES
If "Yes", answer questions a - e. If "No", go to Section 11.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may occur wholly or partially within, or substantially contiguous to, any buildings, archaeological site or district which is listed on or has been nominated by the NYS Board of Historic Preservation for inclusion on the State or National Register of Historic Places.	E3e	☐	☐
b. The proposed action may occur wholly or partially within, or substantially contiguous to, an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory.	E3f	☐	☐
c. The proposed action may occur wholly or partially within, or substantially contiguous to, an archaeological site not included on the NY SHPO inventory. Source: _____	E3g	☐	☐

d. Other impacts: _____		☐	☐
e. If any of the above (a-d) are answered "Moderate to large impact may occur", continue with the following questions to help support conclusions in Part 3:			
i. The proposed action may result in the destruction or alteration of all or part of the site or property.	E3e, E3g, E3f	☐	☐
ii. The proposed action may result in the alteration of the property's setting or integrity.	E3e, E3f, E3g, E1a, E1b	☐	☐
iii. The proposed action may result in the introduction of visual elements which are out of character with the site or property, or may alter its setting.	E3e, E3f, E3g, E3h, C2, C3	☐	☐

11. Impact on Open Space and Recreation

The proposed action may result in a loss of recreational opportunities or a reduction of an open space resource as designated in any adopted municipal open space plan.
(See Part 1. C.2.c, E.1.c., E.2.q.)
If "Yes", answer questions a - e. If "No", go to Section 12.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in an impairment of natural functions, or "ecosystem services", provided by an undeveloped area, including but not limited to stormwater storage, nutrient cycling, wildlife habitat.	D2e, E1b E2h, E2m, E2o, E2n, E2p	☐	☐
b. The proposed action may result in the loss of a current or future recreational resource.	C2a, E1c, C2c, E2q	☐	☐
c. The proposed action may eliminate open space or recreational resource in an area with few such resources.	C2a, C2c E1c, E2q	☐	☐
d. The proposed action may result in loss of an area now used informally by the community as an open space resource.	C2c, E1c	☐	☐
e. Other impacts: _____		☐	☐

12. Impact on Critical Environmental Areas

The proposed action may be located within or adjacent to a critical environmental area (CEA). (See Part 1. E.3.d)
If "Yes", answer questions a - c. If "No", go to Section 13.

☑ NO ☐ YES

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may result in a reduction in the quantity of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
b. The proposed action may result in a reduction in the quality of the resource or characteristic which was the basis for designation of the CEA.	E3d	☐	☐
c. Other impacts: _____		☐	☐

13. Impact on Transportation
The proposed action may result in a change to existing transportation systems. ☑ NO ☐ YES
(See Part 1. D.2.j)
If "Yes", answer questions a - f. If "No", go to Section 14.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. Projected traffic increase may exceed capacity of existing road network.	D2j	☐	☐
b. The proposed action may result in the construction of paved parking area for 500 or more vehicles.	D2j	☐	☐
c. The proposed action will degrade existing transit access.	D2j	☐	☐
d. The proposed action will degrade existing pedestrian or bicycle accommodations.	D2j	☐	☐
e. The proposed action may alter the present pattern of movement of people or goods.	D2j	☐	☐
f. Other impacts: _____		☐	☐

14. Impact on Energy
The proposed action may cause an increase in the use of any form of energy. ☑ NO ☐ YES
(See Part 1. D.2.k)
If "Yes", answer questions a - e. If "No", go to Section 15.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action will require a new, or an upgrade to an existing, substation.	D2k	☐	☐
b. The proposed action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two-family residences or to serve a commercial or industrial use.	D1f, D1q, D2k	☐	☐
c. The proposed action may utilize more than 2,500 MWhrs per year of electricity.	D2k	☐	☐
d. The proposed action may involve heating and/or cooling of more than 100,000 square feet of building area when completed.	D1g	☐	☐
e. Other Impacts: _____			

15. Impact on Noise, Odor, and Light
The proposed action may result in an increase in noise, odors, or outdoor lighting. ☑ NO ☐ YES
(See Part 1. D.2.m., n., and o.)
If "Yes", answer questions a - f. If "No", go to Section 16.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may produce sound above noise levels established by local regulation.	D2m	☐	☐
b. The proposed action may result in blasting within 1,500 feet of any residence, hospital, school, licensed day care center, or nursing home.	D2m, E1d	☐	☐
c. The proposed action may result in routine odors for more than one hour per day.	D2o	☐	☐

d. The proposed action may result in light shining onto adjoining properties.	D2n	☐	☐
e. The proposed action may result in lighting creating sky-glow brighter than existing area conditions.	D2n, E1a	☐	☐
f. Other impacts: _____		☐	☐

16. Impact on Human Health
The proposed action may have an impact on human health from exposure to new or existing sources of contaminants. (See Part I.D.2.q., E.1. d. f. g. and h.) ☐ NO ☑ YES
If "Yes", answer questions a - m. If "No", go to Section 17.

	Relevant Part I Question(s)	No,or small impact may occur	Moderate to large impact may occur
a. The proposed action is located within 1500 feet of a school, hospital, licensed day care center, group home, nursing home or retirement community.	E1d	☑	☐
b. The site of the proposed action is currently undergoing remediation.	E1g, E1h	☐	☐
c. There is a completed emergency spill remediation, or a completed environmental site remediation on, or adjacent to, the site of the proposed action.	E1g, E1h	☐	☐
d. The site of the action is subject to an institutional control limiting the use of the property (e.g., easement or deed restriction).	E1g, E1h	☐	☐
e. The proposed action may affect institutional control measures that were put in place to ensure that the site remains protective of the environment and human health.	E1g, E1h	☑	☐
f. The proposed action has adequate control measures in place to ensure that future generation, treatment and/or disposal of hazardous wastes will be protective of the environment and human health.	D2t	☑	☐
g. The proposed action involves construction or modification of a solid waste management facility.	D2q, E1f	☑	☐
h. The proposed action may result in the unearthing of solid or hazardous waste.	D2q, E1f	☑	☐
i. The proposed action may result in an increase in the rate of disposal, or processing, of solid waste.	D2r, D2s	☑	☐
j. The proposed action may result in excavation or other disturbance within 2000 feet of a site used for the disposal of solid or hazardous waste.	E1f, E1g E1h	☑	☐
k. The proposed action may result in the migration of explosive gases from a landfill site to adjacent off site structures.	E1f, E1g	☑	☐
l. The proposed action may result in the release of contaminated leachate from the project site.	D2s, E1f, D2r	☑	☐
m. Other impacts: _____		☐	☐

17. Consistency with Community Plans

The proposed action is not consistent with adopted land use plans. ☑ NO ☐ YES
(See Part 1. C.1, C.2. and C.3.)
If "Yes", answer questions a - h. If "No", go to Section 18.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action's land use components may be different from, or in sharp contrast to, current surrounding land use pattern(s).	C2, C3, D1a E1a, E1b	☐	☐
b. The proposed action will cause the permanent population of the city, town or village in which the project is located to grow by more than 5%.	C2	☐	☐
c. The proposed action is inconsistent with local land use plans or zoning regulations.	C2, C2, C3	☐	☐
d. The proposed action is inconsistent with any County plans, or other regional land use plans.	C2, C2	☐	☐
e. The proposed action may cause a change in the density of development that is not supported by existing infrastructure or is distant from existing infrastructure.	C3, D1c, D1d, D1f, D1d, E1b	☐	☐
f. The proposed action is located in an area characterized by low density development that will require new or expanded public infrastructure.	C4, D2c, D2d D2j	☐	☐
g. The proposed action may induce secondary development impacts (e.g., residential or commercial development not included in the proposed action)	C2a	☐	☐
h. Other: _____ _____		☐	☐

18. Consistency with Community Character

The proposed project is inconsistent with the existing community character. ☑ NO ☐ YES
(See Part 1. C.2, C.3, D.2, E.3)
If "Yes", answer questions a - g. If "No", proceed to Part 3.

	Relevant Part I Question(s)	No, or small impact may occur	Moderate to large impact may occur
a. The proposed action may replace or eliminate existing facilities, structures, or areas of historic importance to the community.	E3e, E3f, E3g	☐	☐
b. The proposed action may create a demand for additional community services (e.g. schools, police and fire)	C4	☐	☐
c. The proposed action may displace affordable or low-income housing in an area where there is a shortage of such housing.	C2, C3, D1f D1g, E1a	☐	☐
d. The proposed action may interfere with the use or enjoyment of officially recognized or designated public resources.	C2, E3	☐	☐
e. The proposed action is inconsistent with the predominant architectural scale and character.	C2, C3	☐	☐
f. Proposed action is inconsistent with the character of the existing natural landscape.	C2, C3 E1a, E1b E2g, E2h	☐	☐
g. Other impacts: _____ _____		☐	☐

PRINT FULL FORM

Agency Use Only [IfApplicable]

Project :

Date :

Full Environmental Assessment Form
Part 3 - Evaluation of the Magnitude and Importance of Project Impacts
and
Determination of Significance

Part 3 provides the reasons in support of the determination of significance. The lead agency must complete Part 3 for every question in Part 2 where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.

Based on the analysis in Part 3, the lead agency must decide whether to require an environmental impact statement to further assess the proposed action or whether available information is sufficient for the lead agency to conclude that the proposed action will not have a significant adverse environmental impact. By completing the certification on the next page, the lead agency can complete its determination of significance.

Reasons Supporting This Determination:

To complete this section:

- Identify the impact based on the Part 2 responses and describe its magnitude. Magnitude considers factors such as severity, size or extent of an impact.
- Assess the importance of the impact. Importance relates to the geographic scope, duration, probability of the impact occurring, number of people affected by the impact and any additional environmental consequences if the impact were to occur.
- The assessment should take into consideration any design element or project changes.
- Repeat this process for each Part 2 question where the impact has been identified as potentially moderate to large or where there is a need to explain why a particular element of the proposed action will not, or may, result in a significant adverse environmental impact.
- Provide the reason(s) why the impact may, or will not, result in a significant adverse environmental impact
- For Conditional Negative Declarations identify the specific condition(s) imposed that will modify the proposed action so that no significant adverse environmental impacts will result.
- Attach additional sheets, as needed.

Criteria for determining Significance under NYCRR Part 617.7(c)

The only impact identified in Part 2 of the EAF as moderate to large is with respect to item 7.g, i.e., "the proposed action may substantially interfere with nesting/breeding, or over wintering habitat for the predominant species that occupy or use the project site." This correlates to the significance criterion set out in 6 NYCRR 617.7(c) (ii), i.e., "the removal or destruction of large quantities of vegetation or fauna; substantial interference with the movement of any resident or migratory fish or wildlife species; impacts on a significant habitat area; substantial adverse impacts on a threatened or endangered species of animal or plant, or the habitat of such a species; or other significant adverse impacts to natural resources"

In evaluating magnitude, the Department begins with the concept of baseline or to what extent would the permit bring about a change in baseline or existing conditions. Under SEQR, the magnitude of the impact is measured by the difference between existing conditions and that proposed change that would be brought about by a proposed permit. There is no difference between the amount of water withdrawn under the SPDES permit and the amount that may be withdrawn under the water withdrawal permit. Thus, the Department's issuance of the water withdrawal permit would not bring about any changes in the magnitude of impacts. The current water withdrawal regime was established by a Department initiated modification to the Facility's SPDES 2006 permit. In that permit, the Department required measures to ensure the facility operated in accordance with 6 NYCRR 704.5 and Section 316(b) of Clean Water Act, which require that facility minimize impacts from impingement and entrainment on aquatic organisms from the cooling water intake. The water withdrawal permit does not change the requirements or baseline associated with the SPDES permit.

Under the 2006 SPDES permit, the facility is required to use a fish-friendly return system to increase the survivability of fish that become impinged on the intake screen. The 2006 SPDES permit also required the installation of variable speed pumps on each unit. Variable speed pumps allow for the reduction in cooling water used during reduced power demand and colder source water conditions. In addition, the traveling screens on all the units were required to be upgraded. The improvements will allow for the continuous use of the screens and thereby increase the impingement survival. The SPDES permit also requires the scheduling of planned outages to minimize water usage during periods of high fish and egg abundance in the river.

All of the above measures were required to reduce impingement mortality and entrainment mortality from baseline conditions. These reductions were expected to result in positive environmental benefits to the aquatic resources of the East River. None of the measures required the physical disturbance of either land or the river bed. The measures also do not impact the water column or any benthic habitat.

The 2012 SPDES permit renewal required continued use of the BTA measures, and verification monitoring. The level of reductions to aquatic life obtained thus far are consistent with the Department's determination under 15-1503.2(f) and Section 6 NYCRR 617.7(b) that there are no significant cumulative adverse effects from issuance of the Initial Water Withdrawal permit.

Determination of Significance - Type 1 and Unlisted Actions

SEQR Status: ☑ Type 1 ☐ Unlisted

Identify portions of EAF completed for this Project: ☑ Part 1 ☑ Part 2 ☑ Part 3

Upon review of the information recorded on this EAF, as noted, plus this additional support information

and considering both the magnitude and importance of each identified potential impact, it is the conclusion of the Department of Environemntal Conservation as lead agency that:

☑ A. This project will result in no significant adverse impacts on the environment, and, therefore, an environmental impact statement need not be prepared. Accordingly, this negative declaration is issued.

☐ B. Although this project could have a significant adverse impact on the environment, that impact will be avoided or substantially mitigated because of the following conditions which will be required by the lead agency:

There will, therefore, be no significant adverse impacts from the project as conditioned, and, therefore, this conditioned negative declaration is issued. A conditioned negative declaration may be used only for UNLISTED actions (see 6 NYCRR 617.d).

☐ C. This Project may result in one or more significant adverse impacts on the environment, and an environmental impact statement must be prepared to further assess the impact(s) and possible mitigation and to explore alternatives to avoid or reduce those impacts. Accordingly, this positive declaration is issued.

Name of Action: Ravenswood Generation Station Initial Water Withdrawal Permit

Name of Lead Agency: NYSDEC

Name of Responsible Officer in Lead Agency: Kent P. Sanders

Title of Responsible Officer: Environmental Analyst III

Signature of Responsible Officer in Lead Agency: Kent P. Sanders Date: 2/14/2019

Signature of Preparer (if different from Responsible Officer) Date:

For Further Information:

Contact Person: Kent P. Sanders

Address: NYSDEC, 4th Floor 625 Broadway, Albany, 12233-1750

Telephone Number: 518-402-9178

E-mail: deppermitting@dec.ny.gov

For Type 1 Actions and Conditioned Negative Declarations, a copy of this Notice is sent to:

Chief Executive Officer of the political subdivision in which the action will be principally located (e.g., Town / City / Village of)
Other involved agencies (if any)
Applicant (if any)
Environmental Notice Bulletin: http://www.dec.ny.gov/enb/enb.html

PRINT FULL FORM

A-558

EMAIL FROM RAVENSWOOD TO DEC, DATED FEBRUARY 19, 2019

Sanders, Kent P (DEC)

From: James Scullin <James.Scullin@RGS-NYC.com>
Sent: Tuesday, February 19, 2019 11:46 AM
To: Sanders, Kent P (DEC)
Cc: Rudger Seth
Subject: Ravenswood Water Withdrawl Permit

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

I am following up on our permit. Tanja Grzeskowitz no longer works here. Please consider me the site contact. Can you confirm our submittals were made and when can we expect the new permit?

Thanks,

James Scullin
Environmental Manager
Ravenswood Generating Station
38-54 Vernon Boulevard
Long Island City, NY 11101
O:718-706-2033

A-559

DEC RESPONSE TO PUBLIC COMMENTS ON 2019 PERMIT, DATED FEBRUARY 20, 2019 [A-559 - A-566]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits
625 Broadway, 4th Floor, Albany, New York 12233-1750
P: (518) 402-9167 I F: (518) 402-9168 I deppermitting@dec.ny.gov
www.dec.ny.gov

February 20, 2019

Interested Parties and Stakeholders

Re: Response to Public Comments on Application for Initial Water Withdrawal Permit
DECID #2-6304-00024/00056, Ravenswood Generating Station
38-54 Vernon Blvd, Queens County

To Interested Parties and Stakeholders:

On October 1, 2018, the New York State Department of Environmental Conservation (NYSDEC) published a Notice of Complete Application in the *Environmental Notice Bulletin* and opened a public comment period concerning the application by Helix Ravenswood LLC (Helix), for an initial water withdrawal permit for the Ravenswood Generating Station. NYSDEC extended the public comment period until November 19, 2018. In this letter, NYSDEC responds to comments it received on the application during the public comment period. A formal response to comments is not required for the application under the New York State Uniform Procedures Act (ECL Article 70, as implemented by 6 NYCRR Part 621). However, NYSDEC offers these responses to comments in light of the public interest that was expressed.

NYSDEC received comments on the application from the Sierra Club Atlantic Chapter as well as approximately 2,000 comment form letters. The comments are available from NYSDEC on request. The public comments have been compiled and are presented below along with NYSDEC's responses.

Comment 1

DEC Must Make the Determinations Required Under ECL § 15-1503.2 and 6 NYCRR 601.11(c)(1)-(8). NYSDEC took the position in the court proceeding that the making of determinations under ECL § 15-1503.2 and 6 NYCRR 601.11(c)(1)-(8) is not required for issuance of an initial permit to an existing water user. The court decided that such determinations are required for this permit application, so reissuance of the 2014 water withdrawal permit would not be in compliance with law. DEC must instead make the determinations required by ECL § 15-1503.2 and 6 NYCRR 601.11(c)(1)-(8) and use those determinations to set appropriate terms and conditions in a new initial water withdrawal permit.

Response

Initial water withdrawal permits are not issued under 6 NYCRR 601.11. However, the Court in *Sierra Club. v. Martens* ruled that the clause, "subject to appropriate terms and

conditions," as found in ECL § 15-1501.9, requires NYSDEC to make all of the findings or determinations required under ECL §15-1503.2, even when issuing this initial water withdrawal permit to Helix for the continued and unchanged operation of an existing facility. The court also decided that ECL § 15-1501.9 provides NYSDEC with enough discretion such that the issuance of an initial water withdrawal permit for the Ravenswood Generating Station was not a ministerial action within the meaning of SEQR. Therefore, upon the court's annulment of the 2013 initial water withdrawal permit, and remittance of the permit to NYSDEC for further processing, NYSDEC subsequently made the determinations that appear in ECL §15-1503.2, as follows:

1. No other suitable source of water supply exists or will foreseeably become available.
2. The quantity of supply is adequate for the use.
3. The existing water use regime has no impact on future or present needs for potable water.
4. The existing water withdrawal regime cannot be reasonably avoided through more efficient use and conservation of existing water supplies.
5. The existing water withdrawal is being implemented with required operational controls that limit the withdrawal to quantities that are reasonable for purpose for which the water is used.
6. Substantially all withdrawn water is returned to its source. The existing water withdrawal is being implemented with required operational controls and technologies that reduce environmental impacts to aquatic life. The existing withdrawal is unchanged as a result of the application. It will therefore be implemented in a manner that ensures that it will result in no significant individual or cumulative adverse impacts on the quantity or quality of the water source or water dependent natural resources.
7. The water withdrawal incorporates environmentally sound and economically feasible water conservation measures.
8. The water withdrawal is attested to be consistent with applicable municipal, state and federal laws and regional, interstate and international agreements.

Comment 2

NYSDEC Must Determine Cumulative Adverse Effects

Among the determinations DEC is required to make before issuing a water withdrawal permit to Helix, but has not made, is the determination required by ECL §15-1503.2(f) regarding cumulative adverse effects of the withdrawal together with other large withdrawals on water dependent natural resources in the Hudson River estuary. To make this determination, DEC must examine the cumulative impacts of all the power plants and other large water users operating in the Hudson River estuary.

Response

See Responses to Comments 1 and 8.

NYSDEC has made that determination. Under ECL § 15-1503.2(f), NYSDEC has determined that there are no significant cumulative adverse effects from issuance of the initial water withdrawal permit to Helix for its continued, unchanged operation. The baseline against which to evaluate changes for the purposes of determining environmental impact is the current operations as authorized by the existing environmental controls of the facility. There is no change from the previously authorized operations. The water withdrawal permit allows Helix to withdraw the same volume of water it has historically been withdrawing and incorporates operational controls and technologies previously determined by NYSDEC to be protective of the environment.

The impacts from the continued water withdrawals of the Ravenswood Generating Station have previously been fully reviewed under SEQR during the 2006 SPDES permit renewal and were determined to not have a significant negative impact on the environment. There is no new factual change or basis for now considering those same impacts to be significant either individually or cumulatively in the current application for Helix's initial water withdrawal permit.

For an impact to be cumulatively significant it must meaningfully add to the impact from all the water withdrawals on the resource. Pre-2007 studies, as referenced in your comment, demonstrated that the Ravenswood Generating Station only accounted for approximately 2 to 3 percent of entrainment / impingement resulting from five New York Harbor power plants prior to the installation of any operational controls or technologies. Since 2012, the facility's SPDES permit required the facility to run with operational controls and technologies that reduce impingement by an additional 90 percent and entrainment by 65 percent from previous baseline levels. Given the comparatively small percentage of the facility's contribution to the overall levels of impacts to the river, and the further reduction of such impacts resulting from the SPDES permit BTA provisions, the environmental impacts on aquatic organisms from the permitting of existing operations at the facility are not individually or cumulatively significant under ECL § 15-1503.2(f) or 6 NYCRR 617.7.

Comment 3

NYSDEC Must Determine Environmentally Sound and Economically Feasible Water Conservation Measures. Another determination NYSDEC is required to make and has not made for the Ravenswood water withdrawal is the determination required by ECL §15-1503.2(g) as to whether the withdrawal "will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures."

Response

See Response to Comment 1. NYSDEC has made that determination. For this facility, the water conservation determination was made in the context of a withdrawal that involves almost no consumptive use. Environmentally sound and economically feasible water conservation measures for the Ravenswood Generating Station include the use of

variable speed pumps which reduce the amount of water withdrawn during operation at less than maximum capacity and scheduled outage procedures that require that the withdrawal of water stop during periods of non-power generation. In addition to the conditions in the draft initial water withdrawal permit that was made available during the public comment period, the final initial water withdrawal permit will include conditions requiring annual water audits and the maintenance of water withdrawal records.

Comment 4

Closed Cycle Cooling Must be Considered. Closed Cycle Cooling is an obvious water conservation measure that must be evaluated for the Ravenswood facility pursuant to ECL § 15-1503.2(g).

Response

ECL §15-1503.2(g) does not require the evaluation of any specific water conservation measure. It requires NYSDEC to determine whether a new or "proposed" water withdrawal will be implemented in a way that incorporates environmentally sound and economically feasible water conservation measures. Previously, in developing the best technology available (BTA) for the facility's 2006 SPDES permit, NYSDEC evaluated closed cycle cooling for the Ravenswood facility. The limited physical area of the facility property, the intensity of the immediately neighboring development, and other site constraints preclude the construction of a new closed cycle cooling system that uses "dry" cooling towers. A closed cycle cooling system that uses "wet" cooling methods would cause exhaust plumes of cooling vapor and suspended salt, followed by the salt solids falling to the ground (aerial salt deposition) in the most densely-populated city in the state. The cost of either dry or wet closed-cycle cooling systems were determined to be "wholly disproportionate" to the gains to be obtained from alternative operational controls and technologies that were evaluated. For these reasons NYSDEC previously determined in its selection of BTA for the facility's SPDES permit, consistent with CP-52, and sections 704.5 of 6 NYCRR and 316(b) of the federal Clean Water Act, that a closed cycle cooling system is not an 'available' technology for Ravenswood. The factors that led to the SPDES permit BTA determination remain unchanged and that determination has been reaffirmed. Based upon the same information and reasons cited for its BTA selection, closed cycle cooling is not an economically feasible and environmentally sound water conservation measure for the Ravenswood Generating Station. As stated in the Response to Comment 3, the withdrawal will be implemented in a manner that incorporates environmentally sound and economically feasible water conservation measures.

Comment 5

The Inclusion of Conditions from the Ravenswood SPDES Permit Is Not a Substitute for Making the Required Determinations
NYSDEC's inclusion of a condition in the 2014 initial water withdrawal permit incorporating the biological monitoring requirements of Ravenswood Generating

Station's SPDES permit is not a substitute for making the determinations required by ECL § 15-1503.2. Although 6 NYCRR 601.7(f) provides that DEC will review an initial water withdrawal permit application "in coordination with the SPDES or other permit program, particularly with respect to any pending permit renewals," neither this section nor any other provision authorizes incorporating provisions from a SPDES permit as a means of fulfilling DEC's obligations to make the determinations required in ECL §15-1503.2.

The New York legislature enacted the new water withdrawal permitting law requiring extensive water conservation measures in 2011 because it perceived that DEC did not have adequate authority under existing laws, such as the SPDES law, to protect New York's water resources. Almost every major water user in the state already has a SPDES permit. If water withdrawals could be adequately regulated under the SPDES program, the legislature would not have seen a need for a new permitting program imposing significant water conservation requirements. The water withdrawal law and the SPDES law have different objectives and different requirements. The standards to be applied in issuing a SPDES permit are not the same as the standards that apply under the water withdrawal law and regulations, and DEC must make a separate *de novo* determination regarding the benefits of closed-cycle cooling pursuant to the requirements of the water withdrawal law. The vast majority of persons subject to the new law are existing users. DEC's continued refusal to effectively apply the requirements of the water withdrawal law to existing users effectively nullifies the purposes for which the law was enacted.

Response

NYSDEC has broad discretion over the form and format of its permits. In this instance, data, material, and information previously submitted to NYSDEC by the applicant supported NYSDEC's determination under ECL § 15-1503.2 to include some of the same permit conditions that appear in the facility's SPDES permit. NYSDEC has authority to incorporate the SPDES permit provisions by reference as the most appropriate way to coordinate the language of the two permits under 6 NYCRR 601.7.

NYSDEC's jurisdiction to address environmental impacts from Cooling Water Intake Structures (CWISs) through the SPDES permit program is well established. Both 6 NYCRR 704.5 and Section 316(b) of the federal Clean Water Act require that the location, design, construction and capacity of CWISs shall reflect the best technology available (BTA) for minimizing adverse environmental impact. These requirements are further developed in NYSDEC's Commissioner's Policy 52 (CP-52).

While ECL § 15-1503.2(f) and CP-52 have similar objectives in the reduction of impacts to aquatic life, CP-52 has stricter standards and is directly focused on reducing impacts from impingement and entrainment, as well as impacts from the discharge of heated water (*i.e.* thermal pollution). In comparison, the language in ECL § 15-1503(2)(f) is more general and was intended to address consumptive withdrawals that lower source water levels and result in significant impacts to aquatic life and water quality.

See also the discussion of closed cycle cooling in the response to Comment 4.

Comment 6

The Application Materials Must Include Sufficient Information to Make the Required Determinations.
Insufficient information is contained in the Helix permit application to enable DEC to make the determinations required ECL § 15-1503.2.

Response

As is appropriate when reviewing an application for a facility with a long permitting history, the unchanged continuation of the existing withdrawal at the Ravenswood Generating Station was considered within the context of the currently permitted activities for the facility under the existing regulatory framework. The Engineering Report submitted by TC Ravenswood as part of its original water withdrawal permit application and resubmitted by Helix contained the information required under 6 NYCRR Part 601.10 applicable to the withdrawal, indicated no change from existing operations and enabled NYSDEC to make the determinations in ECL §15-1503.2.

Comment 7

The Withdrawals have Significant Adverse Impact Under SEQR
The withdrawals substantially interfere with the movement of resident and migratory fish in the estuary. … the withdrawal has substantial adverse impacts on Atlantic Sturgeon, which is an endangered species. Thus, it is clear that the destruction of aquatic life by the cooling water intakes has a significant adverse impact under the SEQR standards.

Response

For a discussion of significance of the impacts of the withdrawals see the response to Comment # 2. Entrainment and impingement studies for the Ravenswood Facility have not found any entrainment or impingement of either Atlantic or Short Nosed Sturgeon at the facility.

Comment 8

DEC Must Revoke the Negative Declaration. The Negative Declaration does not evaluate whether the projected reductions in fish impingement and entrainment beyond those documented in the facility's 2005-2006 impingement and entrainment studies have been achieved. The results of the verification monitoring required in the facility's most recent SPDES permit, its 2012 SPDES permit are not described in the Negative Declaration. The Negative Declaration does not offer any data on what the facility's actual fish entrainment and impingement amounts are estimated to be or consider

alternative technologies that might further minimize fish entrainment and impingement such as closed cycle cooling. Nor does the Negative Declaration consider the cumulative impacts of the Ravenswood cooling water intake system and the other water withdrawals from the estuary. In these circumstances, it is clear that DEC has not taken a "hard look" at the impacts of the Ravenswood facility as required by Section 6 NYCRR 617.7(b) of the SEQRA regulations and the many cases interpreting the "hard look" standard. For this reason, DEC must revoke the Negative Declaration and require that a full EIS be prepared.

Response

The negative declaration remains appropriate and NYSDEC has taken the "hard look" required under SEQRA. NYSDEC evaluated the Verification Monitoring Report required under the 2012 SPDES permit for the facility. Helix LLC submitted that report to NYSDEC in 2018. NYSDEC reviewed that report and requested additional information from Helix. As required under the BTA provisions of its SPDES permit, Helix LLC] must propose additional measures to NYSDEC for approval to meet the SPDES permit's stated performance goals. The levels of reductions obtained by the facility to date are consistent with NYSDEC's determination under ECL § 15-1503.2(f) and 6 NYCRR 617.7(b) that there are no significant individual or cumulative adverse effects from issuance of the initial water withdrawal permit for the existing, unchanged operation. To further address concerns raised during the public comment period NYSDEC is issuing an Amended Negative Declaration for this action.

As for cumulative impacts, see also the responses to Comment No. 2, 4 and 7.

Comment 9

A New Coastal Assessment Form Must Be Prepared
The Coastal Assessment Form (CAF) completed by DEC on September 13, 2018 for reissuance of the 2014 Permit contains incorrect responses to two important questions on the form. DEC incorrectly states that reissuance of the permit will have no significant impacts on "significant fish or wildlife habitats" in its response to question C.1 (a) of the form, and incorrectly states that reissuance of the permit will have no significant impacts on "commercial or recreational use of fish and wildlife resources" in response to question C.2 of the form. Had DEC answered these questions correctly, that would have resulted in the action being analyzed in more detail and possibly modified before a certification of consistency was issued pursuant to 19 NYCRR Part 600 or before DEC made its SEQRA determination.

Response

Question C1a and C2a were answered correctly. The East River is not listed as a Significant Coastal Fish and Wildlife Habitat and the facility is located approximately seven miles away from the nearest water connection with the Hudson River Significant

Coastal Fish and Wildlife Significant Habitat. The existing water withdrawal regime and the fisheries protection measures at the Ravenswood Generating Station, as governed under the BTA provisions of the current SPDES permit, have previously addressed impacts to the Hudson River Significant Coastal Fish and Wildlife Habitat and to commercial and recreational Fish and Wildlife users.

Thank you for taking the time to comment on this application. If you have any questions or need further information, please don't hesitate to contact me.

Sincerely,

Kent P. Sanders

Kent P. Sanders
Deputy Chief Permit Administrator
Division of Environmental Permit

A-567

ENB NOTICE REGARDING AMENDED NEGATIVE DECLARATION FOR 2019 PERMIT, DATED FEBRUARY 20, 2019

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

ENB - Region 2 Notices 2/20/2019

Amended Negative Declaration

Queens County (Queens) - The New York State Department of Environmental Conservation (NYS DEC), as lead agency, has determined that the proposed Ravenswood Generating Station Initial Water Withdrawal Permit will not have a significant adverse environmental impact. The action involves an application by the applicant for an initial permit for the continued withdrawal of up to 1.5 BGD of cooling water from the East River for electrical generation at the Ravenswood Generating Station, The facility has been in operation since 1963. The facility currently operates under State Pollutant Discharge Elimination System (SPDES) and Air Permits from NYS DEC. No changes in current operations are proposed. NYS DEC has determined that the Facility is eligible for an Initial Permit under Section 15-501.9 of the Environmental Conservation Law. Initial Permits are limited to existing facilities for existing water withdrawals over 100,000 GPD which were properly reported to the NYS DEC prior to February 15, 2012. Section 15-501.9 requires NYS DEC to issue Initial Water Withdrawal Permits for the reported volume. The project is located at 38-54 Vernon Boulevard in Long Island City, New York.

Contact: Kent P. Sanders, NYS DEC - Division of Environmental Permits, 625 Broadway, 4th Floor, Albany, NY 12233-1750, Phone: (518) 402-8179, E-mail: deppermiting@dec.ny.gov.

A-568

COVER LETTER WITH SIGNED 2019 PERMIT TO RAVENSWOOD, DATED FEBRUARY 20, 2019 [A-568 - A-573]

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits
625 Broadway, 4th Floor, Albany, New York 12233-1750
P: (518) 402-9167 I F: (518) 402-9168 I deppermitting@dec.ny.gov
www.dec.ny.gov

February 20, 2019

Mr. James Scullin
Helix Ravenswood LLC.
38-54 Vernon Blvd
Long Island City, NY 11101

RE: DEC #2-6304-0002400056
Initial Water Withdrawal Permit
Ravenswood Generating Station
38-54 Vernon Blvd, Queens County

Dear Mr. Scullin;

Please find enclosed, an Initial Water Withdrawal Permit. Please read the enclosed permit carefully and note the conditions that are included. This permit will **expire on February 19, 2025. unless timely renewed**. The permit runs concurrently with the facility's SPDES Permit (NY-0005193) which is currently SAPA extended.

The permitted withdrawal volume is up to 1,527,840,000 gallons per day (gpd). The maximum permitted withdrawal volume determination in the enclosed Initial Permit is based on the express requirements in ECL § 15-1501.9.

An increase in the permitted maximum withdrawal volume would require an application for a modification of the enclosed Initial Permit under normal permitting procedures.

Please be advised that the Uniform Procedures Regulations (6 NYCRR Part 621) provide that an applicant may request a public hearing if a permit is denied or contains conditions which are unacceptable to them. Any such request must be made in writing within 30 calendar days of the date of permit issuance and must be addressed to the Regional Permit Administrator at the letterhead address. A copy should also be sent to the Chief Administrative Law Judge at NYSDEC, 625 Broadway, 1st Floor, Albany, NY 12233-1550.

Also note that this permit does not eliminate the need to obtain any other federal, state or local permits or approvals that may be required for this project.

Permit Expiration and Renewal
Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration. As provided for in NYCRR 621.11(l) permit coverage may be extended during Department review pursuant to section 401(2) of the State

Administrative Procedures Act for projects that submit timely and sufficient renewal applications.

Should you have any questions regarding your obligations under the permit, please feel free to contact me by phone at (518) 402-9178 or by email at Kent.Sanders@dec.ny.gov

Sincerely,

Kent P. Sanders
Deputy Chief Permit Administrator

Enclosures: Permit
cc: D. English, DOW
E. Schmidt, DOW
C. Conyers, OGC
A. London, OGC
S. Watts, R2 Permits

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 2-6304-00024

PERMIT
Under the Environmental Conservation Law (ECL)

Permittee and Facility Information

Permit Issued To:
HELIX RAVENSWOOD LLC
38-54 VERNON BLVD
LONG ISLAND CITY, NY 11101
(718) 706-2818

Facility:
RAVENSWOOD GENERATING STATION
38-54 VERNON BLVD
QUEENS, NY 11101

Facility Location: in QUEENS COUNTY **Village:** Long Island City
Facility Principal Reference Point: NYTM-E: 588.961 NYTM-N: 4512.613
Latitude: 40°45'34.8" Longitude: 73°56'45.8"
Project Location: 38-54 Vernon Boulevard
Authorized Activity: This permit authorizes the withdrawal of a supply of water up to 1,527,840,000 gallons per day (GPD) from the East River for once through cooling and other processes related to electrical generation.

Permit Authorizations

Water Withdrawal Non-public - Under Article 15, Title 15
Permit ID 2-6304-00024/00056 (WWA No. 11,660)
New Permit Effective Date: 2/20/2019 Expiration Date: 2/19/2025

NYSDEC Approval

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, and all conditions included as part of this permit.

Permit Administrator: KENT P SANDERS, Deputy Chief Permit Administrator
Address: NYSDEC Headquarters
625 Broadway
Albany, NY 12233

Authorized Signature: Kent P. Sanders Date 2/20/2019

Permit Components

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Facility DEC ID 2-6304-00024

GENERAL CONDITIONS, APPLY TO ALL AUTHORIZED PERMITS

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

WATER WITHDRAWAL NON-PUBLIC PERMIT CONDITIONS

1. **Approval of Completed Works from NYS P.E.** Any new works constructed or modified pursuant to this water withdrawal permit shall be constructed under the general supervision of a person licensed to practice engineering in this state (professional engineer). Upon completion of construction and pre-operational testing, such works may not commence final operation until the professional engineer first certifies in writing to the Department that the works have been constructed in accordance with the issued permit.

2. **Permit Expiration and Renewal** Any permittee who intends to continue to operate a water withdrawal system beyond the period of time covered in the applicable water withdrawal permit must apply for a renewal of the permit at least 30 days prior to its expiration.

3. **Transfer of Ownership of Water Withdrawal Systems** Unless otherwise specified in this permit, a new water withdrawal permit application is required for the acquisition or condemnation of the approved water withdrawal system.

4. **Cooling Water Withdrawals Regulated by SPDES** Nothing in this water withdrawal permit shall supercede the need to, where necessary, obtain an appropriate SPDES permit that allows for the operation of a cooling water intake structure and the discharge of the amounts of water approved by this water withdrawal permit. If any modifications to the location, or capacity of the intake structure are required by the permittee's SPDES permit, permittee must also apply for a modification of this water withdrawal permit to reflect such changes.

5. **Incorporation of the SPDES Water Conservation and Fisheries Protection Measures** Required measures for water conservation and the reduction of impacts to the fisheries resource contained in the Biological Monitoring Requirement Section of the facilities SPDES permit # NY0005193 are hereby incorporated by reference into this permit.

6. **Meter All Sources** The permittee must install and maintain meters or other appropriate measuring devices on all sources of supply used in the system. Source master meters or measuring devices are to be read, and records kept of those readings, on at least a weekly basis. The permittee must maintain records of water withdrawn and consumptive use for each calendar year.

7. **Source Meter Calibration** All source meters or measuring devices shall be calibrated for accuracy at least once each year.

8. **Permittee Must Maintain Records** The permittee must retain records of production and consumption, reports of audit results, and summaries of leaks detected and repaired for at least ten years. The permittee must provide copies of such of these records, reports, and summaries as might be requested in writing by the Department within one month of receiving such a request.

9. **Conduct Water Audits** At least once annually, the permittee must conduct a system-wide water audit that utilizes metered water production and consumption data to determine unaccounted-for water.

10. **Annual Water Withdrawal Reports** The permittee must submit a Water Withdrawal Reporting Form to the Department's Division of Water, Albany, NY by March 31st of each year. The form is available on the Department's website and includes information regarding approved sources of water supply, source capacities, average and maximum day water use data and water conservation and efficiencies employed during the past calendar year.

GENERAL CONDITIONS - Apply to ALL Authorized Permits:

1. **Facility Inspection by The Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71- 0301 and SAPA 401(3).

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications For Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer are to be submitted to:

Deputy Chief Permit Administrator
NYSDEC Headquarters
625 Broadway
Albany, NY12233

4. **Permit Modifications, Suspensions and Revocations by the Department** The Department reserves the right to exercise all available authority to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

a. materially false or inaccurate statements in the permit application or supporting papers;

b. failure by the permittee to comply with any terms or conditions of the permit;

c. exceeding the scope of the project as described in the permit application;

d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;

e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee, excepting state or federal agencies, expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

BIOLOGICAL FACT SHEET REGARDING RAVENSWOOD COOLING WATER INTAKE STRUCTURE, DATED OCTOBER 27, 2006 [A-574 - A-580]

Biological Fact Sheet - Cooling Water Intake Structure
Bureau of Habitat, Steam Electric Unit

Name of Facility: Ravenswood Generating Station
Owner/Operator: Keyspan Corporation
SPDES #: NY-000 5193
Location: Queens County, New York
New York City
East River

1. Description of Facility

The Ravenswood Generating Station, located on the East River, contains three units with rated capacities of 400, 400 and 1027 megawatts. The facility has a combined flow of condenser cooling water and service water of 1457 million gallons per day. The shoreline intake structure consists of 14 intake bays and conventional through flow traveling screens to keep the station's condensers clear. Marine organisms and debris washed off the screens at each unit are returned to the East River through a Department approved, low stress fish return pipe.

2. Ecological Resource

The East River is part of the Hudson-Raritan Estuary System, extending approximately 170 miles from the dam at Troy, NY to Sandy Hook, NJ. The estuary system connects to the coastal marine waters of the New York Bight, between Sandy Hook, NJ and Rockaway Point, NY, and to the western end of the Long Island Sound through the East River.

The East River is a tidal strait extending about 16 miles from the battery to Throgs Neck at Long Island Sound. At Hell's Gate, a natural sill divides the strait into two distinct hydrological sections. The upper East River, which connects to Long Island Sound, is broader, more shallow and characterized by more natural shoreline habitat. The Lower East River, where the Station is located, is a narrower 10 mile section, bulkheaded along most of its length. The channel here is steep sided with depths at approximately 35 to 80 feet. Current velocities in the vicinity of the Station are high, with average peak flood and ebb currents at about 4.6-4.7 feet per second, and maximum tidal velocities exceeding 5.5 feet per second (ASA, 2001).

More than 140 species of fish have been reported from the Hudson-Raritan Estuary System, representing marine, estuarine, freshwater and diadromous fish, as well as species adapted to northern and southern climates. More than 50 species of fish, mostly marine in origin, have been identified from studies conducted at the Station in the 1990s. Under a 1992 consent order with the Department, Con Edison conducted a series of studies to assess the Station's impact on aquatic resources in the East River and determine best technology available for the cooling water intake system. Impingement and entrainment studies conducted were between 1991 and 1994. Approximately 83,000 fish were estimated to be impinged per year, mainly winter flounder, blueback herring, bay anchovy and grubby. Entrainment studies conducted over that time estimated that an average of 220 million eggs, larvae and juvenile fish were entrained per year,

with eggs accounting for approximately 75% of the total. The principal species entrained were four beard rockling, bay anchovy, winter flounder, grubby and silver hake (Con. Ed., 1996) .

Studies required under the consent order determined that several species of impinged fish, including winter flounder, bay anchovy and Atlantic tomcod, experience thermal stress and possibly increased levels of mortality upon exposure to the high summer temperatures in the cooling water discharge canal. A mark-recapture study was then conducted to determine suitable location(s) to return fish directly to the East River without exposure to the station's thermal discharge. Construction of three fish return pipes, one for each unit, was completed in 2005. The system safely transports impinged fish back to the East River and is the first step in mitigating the impacts of the Station's cooling water intake system. Studies are being conducted in 2006, to quantify the survival of fish impinged on the station's intake screens.

3. Alternatives Evaluated

The following technologies were evaluated at this facility:

- Closed Cycle Cooling
- Aquatic Filter Barrier
- Wedge Wire Screens
- Variable Speed Pumps
- Behavioral Devices
- Continuos Operation of Existing Screens
- Angled Screens
- Ristroph Intake Screens
- Outages

4. Discussion of Best Technology Available

According to 6NYCRR Part 704.5 - *Intake structures* and Section 316(b) of the federal Clean Water Act, the location, design, construction, and capacity of cooling water intake structures must reflect the "best technology available" (BTA) for minimizing adverse environmental impact. 40 CFR § 125 subpart J establishes minimum standards for reducing adverse environmental impact. In addition, federal case law [Seacoast Anti-Pollution League vs. Costle, First Circuit Court, 1979] and New York administrative precedent [Bethlehem Energy Center, Athens Generating Station, Bowline 3 Generating Station] require that the costs of any BTA technologies should not be "wholly disproportionate" to the environmental benefits derived.

A. Location. Alternative locations were not considered to be feasible for any of the alternatives evaluated for this facility. Relocating the intake upstream or downstream is not possible as the shoreline in the vicinity of the station is completely developed. Additionally, such action would provide little or no environmental benefit. The aquatic filter barrier and wedge wire intake screens would extend the intake structure at least 80 feet out from the bulkhead into the East River. Heavy barge traffic, and the presence of

the captive oil barge in front of the plant, would expose these structures to excessive risk of damage and therefore, were not considered to be feasible.

B. Design. – The aquatic filter barrier, wedge wire intake screens, behavioral devices, Ristroph and angled intake screens would all require some degree of modification to the design of the intake structure. The aquatic filter barrier, wedge wire intake screens are not feasible. Closed cycle cooling would require more space for towers than is available on site (in excess of 5 acres for hybrid towers for unit 3 only, without considering spacing between banks of towers). Therefore closed cycle cooling is not considered feasible. Angled screens would require extensive civil engineering at the intake at a high expense, for environmental benefits not proven to be superior to Ristroph screens, and therefore, were not considered further. Under this category, only Ristroph screens, modifications to continuously operate existing screens and behavioral devices remain as feasible candidates to reduce impingement mortality. However, the benefits of these technologies by themselves fall short of 316(b) performance requirements. They could only be considered to be BTA in conjunction with other alternatives.

C. Construction. – None of the alternatives were considered to have significant adverse impacts during the construction phase, with the possible exception of the wedge wire intake screen alternative, due to the extensive construction out into the East River. However, this alternative has already been ruled out due to location impacts and need not be considered further here.

D. Capacity. – Closed cycle cooling, variable speed pumps, and outages are the only alternatives to affect water withdrawal capacity. Closed cycle cooling provides the greatest benefit, but is not feasible for this site. KeySpan has projected that the reduction in cooling water through use of the combination of outages and variable speed pumps at all units will reduce impingement mortality to fish by 79% and entrainment of fish by 65%. Diurnal cycling of pumps may further decrease water use and provide greater impact reductions.

5. Determination of Best Technology Available

After evaluating all of the available alternatives, the New York State Department of Environmental Conservation (NYSDEC) has determined that, in combination, the following technologies represent the best technology available (BTA) for minimizing adverse environmental impacts from the cooling water intake structure. These alternatives will result in a 90% reduction in impingement mortality and a 65% reduction in entrainment from the full flow calculation baseline. The cost of these technologies is not wholly disproportionate to the benefits.

a) Installation of variable speed pumps and ancillary equipment at Ravenswood Units 1, 2 and 3 that will allow for the reduction in cooling water use projected in the applicants Phase 2 Report "Evaluation of Fish Protection Benefits of Cooling Water Intake System

Alternatives at the Ravenswood Generation Station", dated April 2004 and revised February 2005;

b) Scheduling of a planned outage process that will require pumps to be shut down to reduce impingement and entrainment as described in the applicants Phase 2 Report "Evaluation of Fish Protection Benefits of Cooling Water Intake System Alternatives at the Ravenswood Generation Station", dated April 2004 and revised February 2005;

c) Upgrades to the existing traveling intake screens at Ravenswood Units 1, 2 and 3 to allow for the continuous operation of all traveling intake screens to increase impingement survival, as described in the applicants letter from A. Cristopher Gross to Roy A. Jacobson, dated August 14, 2006;

d) Additional measures proposed by the applicant to meet a 90% reduction in impingement mortality.

The use of variable speed pumps, and outages is predicted by the applicant to achieve a 65% reduction in entrainment and a 79% reduction in impingement mortality. A 65% reduction in entrainment is the maximum impact reduction established among all the viable alternatives studied. The use of continuous screen operation, under study in 2006, is expected to further reduce impingement mortality to an approximate 85% reduction from the full flow baseline. KeySpan must also propose additional measures to further reduce impingement mortality, achieving a 90% reduction from full flow baseline. These levels of impact reduction meet the federal 316(b) Phase II performance standards.

Therefore, the combination of outages, variable speed pumps, continuous operation of intake screens at all units, and the additional steps to meet a 90% reduction in impingement mortality is considered to be BTA for the Ravenswood Station. The cost of these measures is not wholly disproportionate to the benefits to be gained.

6. Monitoring Requirements

Following approval of the schedule for implementing the alternative(s) selected as BTA, and the methodology for assessing their efficacy, the permittee is required to submit a *Verification Monitoring Plan* for Department review and approval. The plan details the procedures necessary to confirm that the reductions in impingement mortality and entrainment required by this permit are being achieved. The specific requirements of the monitoring plan are set forth in Additional Requirements Nos. 3.a.- e. of the modified SPDES permit.

7. Federal Requirements

The Department has determined that the Ravenswood Generating Station is a Phase II existing facility as defined by 40 CFR §125.91 and therefore subject to Subpart J of 40 CFR §125 - Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under 316(b) of the Clean Water. The Phase II rule contains standards for the National Pollutant Discharge Elimination System (NPDES) program and delegated programs including

the New York State Pollutant Discharge Elimination System (SPDES) program. Applicable Phase II requirements are correlated with conditions of the attached draft SPDES permit in Table 1 below.

Table 1. Phase II rule for cooling water intake structures and the requirements contained in the draft State Pollutant Discharge Elimination System (SPDES) permit for the Ravenswood Generating Station.

Code of Federal Regulations	Summary of Phase II Requirement	Requirement in SPDES permit for Ravenswood Generating Station
§ 125.95(b)	Requires the permittee to submit a *Comprehensive Demonstration Study* characterizing impingement and entrainment and describing the operation of the Ravenswood Generating Station Cooling Water Intake.	These requirements have already been met through implementation of DEC Consent Order R2-20000906-179.
§ 125.94(a)	Requires the permittee to select and implement alternatives for establishing best technology available for minimizing adverse environmental impacts.	Biological Requirements Nos. B.1, B.2 and B.3 of the attached permit are consistent with this requirement.
§ 125.94(b)(1)	Establishes national performance standards for reductions in impingement mortality.	The standards contained in Biological Requirement No. B.3 of the attached permit are consistent with this requirement.
§ 125.94(b)(2)	Establishes national performance standards for reductions in entrainment.	The standards contained in Biological Requirement No. B.3 of the attached permit are consistent with this requirement.
§ 125.95(b)(4)	Requires *Technology and Compliance Assessment Information* to be submitted if the permittee chooses to use design and construction technologies and/or operational measures.	These requirements have already been met through implementation of DEC Consent Order R2-20000906-179.
§125.95(b)(7)	Requires a *Verification Monitoring Plan* that includes at least 2 years of studies to monitor full scale implementation of technologies and operational measures which have been implemented.	Biological Requirement No. B.5 of the attached permit is consistent with this requirement.
§125.97(a)	Requires the permittee to keep records of all the data used to complete the permit application and show compliance with the requirements of § 125.94, any supplemental information developed under § 125.95 and any compliance monitoring data submitted under § 125.96, for a period of at least three years from the date of permit issuance.	Biological Requirements No.B.6(a) of the attached permit is consistent with this requirements.

Code of Federal Regulations	Summary of Phase II Requirement	Requirement in SPDES permit for Ravenswood Generating Station
§ 125. 97(b)	Requires the permittee to submit a status report to the Department every two years, that includes appropriate monitoring data and other information specified by the Department in accordance with § 125.98(b)(5).	Biological Requirements No. B.6(b) of the attached permit are consistent with these requirements.

8. Legal Requirements

The requirements for the cooling water intake structure in this State Pollutant Discharge Elimination System permit are consistent with the policies and requirements embodied in the New York State Environmental Conservation Law, in particular - Sec.1-0101.1.; 1-0101.2.; 1-0101.3.b., c.; 1-0303.19.; 3-0301.1.b., c., i., s. and t.; 11-0107.1; 11-0303.; 11-0535.2; 11-1301.; 11-1321.1.; 17-0105.17.; 17-0303.2., 4.g.; 17-0701.2. and the rules thereunder, specifically 6NYCRR Part 704.5. Additionally, the requirements are consistent with the Clean Water Act, in particular Section 316(b) and the rules thereunder, specifically Subpart J of 40 CFR §125 - Requirements Applicable to Cooling Water Intake Structures for Phase II Existing Facilities Under 316(b) of the Clean Water Act.

9. Summary of Changes

Deletions (Former Permit Conditions)

Former Permit Condition	Reason for Deletion or Change
Additional Requirement No.12	Condition has been replaced by Requirement No. B.8.
Additional Requirement No.13	Condition has been replaced by Requirement No. B.9.
Additional Requirement No.14	Deleted. Condition is no longer necessary due to operation of newly constructed fish return system.
Additional Requirement No.15	Deleted. Fish return system has been constructed and is operational. Condition has been complied with.

Additions (New Permit Conditions)

New Permit Condition	Reason for Addition or Change
Additional Requirement B.1	Requirement to submit results of an impingement survival study conducted in 2006.
Additional Requirement B.2	Establishment of technologies and operational measures to meet BTA requirements of 6 NYCRR Part 704.5 and 40 CFR 125 - Subpart J.

Additional Requirement B.3	Performance standards to achieve a 90% reduction in impingement mortality and a 65% reduction in entrainment from full flow baseline level.
Additional Requirement B.4	Requirement to submit a Technology Installation and Operation Plan (TIOP) consistent with 40 CFR 125.95(b)(4)(ii). Requirement to submit a supplemental TIOP to achieve a 90% reduction in impingement mortality.
Additional Requirement B.5	Requirement to submit a Verification Monitoring Plan consistent with 40 CFR 125.95(b)(7).
Additional Requirement B. 6	Requirement to submit a report to demonstrate compliance with 6 NYCRR Part 704.5 and 40 CFR 125 - Subpart J.
Additional Requirement B. 7	Requirement to submit a thermal study plan to address criteria contained in 6 NYCRR Part 704.
Additional Requirement B. 8	Replaces former Additional Requirement No. 12 requiring permittee to comply with DEC consent order No. R20000906 .
Additional Requirement B. 9	Replaces former Additional Requirement No. 13, requiring prior DEC approval before making any changes to the cooling water intake structure.

10. References

ASA 2001. Ravenswood Generating Station. Final Action Report. Prepared by ASA Analysis and Communication, Inc. for the Keyspan Corporation.

ASA 2004. Evaluation of the Fish Protection Benefits of Cooling Water Intake System Alternatives at the Ravenswood Generating Station. Phase 2 Report. Prepared by ASA Analyses
and Communication, Inc. for the Keyspan Corporation. April 2004. Revised February 2005.

Con. Ed. 1996. Ravenswood Generating Station. Diagnostic Study Report. Prepared by Consolidated Edison Company of New York, Inc. Pursuant to the December 23, 1993 Order On Consent in DEC file No. R2-2985-90-04. April 30, 1996.

Document prepared by Michael J. Calaban, and last revised on 27 October 2006.

BRWM Jan 2010

10883

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by February 1st for the preceding year

RECEIVED
JAN 29 2010
BUREAU OF WATER RESOURCE MANAGEMENT

Annual $50 fee (if applicable) submitted: Yes ☑ or N/A ☐

Please see instructions on page 4

Facility Name: Ravenswood	Facility Street Address: 38-54 Vernon Blvd.			Reporting year: 2009
City: Long Island City	Zip: 11101		Town:	County: Queens
Contact Name: Kevin Fennessey			Contact Telephone: 718.706.2773	
Source Name: East River	Source Type: S	Well Depth:	Capacity: Units	
Source Name: NYC Municipal	Source Type: P	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
Source Name:	Source Type:	Well Depth:	Capacity: Units	
For additional source listings, check this box ☐ and go to page 3		If an "interbasin diversion" occurs, check this box ☐ and go to page 3		
Average Day Withdrawal: 559.8 MGD	Maximum Day Withdrawal: 1,390 MGD		Max or Permitted Capacity: 1,390 MGD	
Submitted by: Kevin Fennessey		Title: Environmental Specialist	Date: 01/25/2010	

Water Withdrawal Category (check all that apply)

- ☐ Agricultural
- ☐ Bottled / Bulk Water
- ☐ Commercial
- ☐ Environmental
- ☐ Industrial
- ☐ Institutional
- ☐ Mine Dewatering
- ☐ Oil / Gas Production
- Power Production:
  - ☒ Fossil Fuel
  - ☐ Nuclear
  - ☐ Other Pwr:
- ☐ Public Water Supply
- Recreation:
  - ☐ Golf Course
  - ☐ Snow Making
  - ☐ Other Rec:
- ☐ Other:

Reset Form | Print Form | Submit by Email

If you do not wish to submit this form via email, you may fill it out, then print and mail it to the address shown at the top of the page. Don't forget to fill out pages 2 and 3. Please include the $50 fee if applicable.

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management, 625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form (continued)

Please see instructions on page 4

Calculation Method: P (See instructions on page 4) **For Public Water Supplies Only** -- Population Served: _____ Percent Water Unaccounted For: ____ %

UNITS: Must be gallons per month	January	February	March	April	May	June
Withdrawn					13,392,000,000	18,450,000,000
Transferred / Imported					0	0
Consumed					11,705,000	16,113,000
Returned					13,404,000,000	18,466,000,000
Diversions In (if any)					0	0
Diversions Out (if any)					0	0
UNITS: Must be gallons per month	July	August	September	October	November	December
Withdrawn	11,253,000,000	26,226,000,000	18,900,000,000	18,259,000,000	18,090,000,000	12,462,000,000
Transferred / Imported	0	0	0	0	0	0
Consumed	13,523,000	23,731,000	13,194,000	10,866,000	11,084,000	10,313,000
Returned	11,267,000,000	26,250,000,000	18,913,000,000	18,270,000,000	18,101,000,000	12,472,000,000
Diversions In (if any)	0	0	0	0	0	0
Diversions Out (if any)	0	0	0	0	0	0

Go to Page 1 to submit form by email

RAVENSWOOD ANNUAL WATER WITHDRAWAL REPORTING FORM FOR REPORTING YEAR 2013, DATED MARCH 21, 2014 [A- 583 - A- 587]

A-583

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management
625 Broadway, Albany, NY 12233-3508

Nov 2013

Water Withdrawal Reporting Form

Due by March 31st each year

Prior to filling out this form, please read the instructions on the last page

This form not for Agricultural Facilities

Section 1

Facility Name Ravenswood Generating Station	Facility Street Address 38-54 Vernon Blvd			Reporting Year 13
City Long Island City	Zip 11101	Town	County Queens	
Contact Name Daniel O'Donnell	Email daniel_odonnell@transcanada.com		Telephone (718) 706-2818	

Source Name East River	Source Type S	Well Depth	Max Rate 1,527.84	Units MGD
Source Name NYC DEP	Source Type P	Well Depth	Max Rate	Units MGD
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units

Average Day Withdrawal: 363.1 MGD	Maximum Day Withdrawal:1,511.4 MGD	Permitted Withdrawal or Max System Capacity 1,527.84 MGD
Submitted by: Daniel O'Donnell	Title: Compliance Manager	Date: 3/21/2014

Water Withdrawal Category (Check one)

- Agricultural
- Bottled / Bulk Water
- Commercial
- Environmental
- Industrial
- Institutional
- Mine Dewatering
- Oil / Gas Production
- Power Production:
  - ✓ Fossil Fuel
  - Nuclear
  - Other Pwr:
- Public Water Supply
- Recreation:
  - Golf Course
  - Snow Making
  - Other Rec:
- Other:

Reset Entire Form

Print Form

Submit by Email

If you do not receive a confirmation email within 10 minutes, please contact awqrsdec@gw.dec.state.ny.us

Permittees must record any sales to outside water systems or facilities on an additional form. Click this box for the form.

Section 2

Calculation Method: P M = Metered readings W = Flow through a weir or flume P = Flow through a pipe or pump run times E = Estimated C = Pump curve calcualtion

Units: *Must be in gallons per month*	January	February	March	April	May	June
Withdrawn	10,388,000,000	5,560,000,000	7,533,000,000	7,269,000,000	14,560,000,000	21,117,000,000
Transferred / Imported	15,735,488	12,251,697	11,178,248	8,917,121	18,262,486	15,656,258
Consumed	11,316,075	9,555,757	7,523,863	6,813,853	15,594,511	12,526,985
Returned	10,342,419,413	5,562,695,940	7,536,654,385	7,271,103,268	14,562,667,975	21,120,129,273
Diversions In / Out, if any						

Units: *Must be in gallons per month*	July	August	September	October	November	December
Withdrawn	30,518,000,000	13,943,000,000	9,415,000,000	3,820,000,000	2,587,000,000	5,728,000,000
Transferred / Imported	20,315,257	11,754,305	9,181,518	9,057,483	5,224,316	12,612,259
Consumed	16,362,787	8,780,702	6,720,654	5,230,632	3,931,267	10,878,495
Returned	30,521,952,470	13,945,973,603	9,417,460,864	3,823,826,851	2,588,293,049	5,729,733,764
Diversions In / Out, if any						

Describe location of returned water	Water is returned to the East River via SPDES outfalls 001, 008, 009, 010. These points are annotated as discharges 1-4 respectively on the attached map.

Section 3

General Map Required

Please submit a map showing location of all withdrawals and any points of return flow. Label all points. **A map is not necessary if one was submitted in a previous year and no changes have occurred.** Precise locations will remain confidential.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. For electronic maps a suggested website is described below:

(1) Go to the USGS National Map site. Type the address of the facility into the search box.
(2) Zoom in and use any of the map-type choices to best confirm your location.
(3) Designate water withdrawal locations by clicking on the map to add a marker(s).
(4) For surface water withdrawals, use the "Topo" tab.
(5) Add a marker to designate the location of any related dams, weirs, or diversion structures.
(6) Print. Manually label the name of each marked source.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290.
- Print, scan and email to awqrsdec@gw.dec.state.ny.us
- Copy electronically and email to awqrsdec@gw.dec.state.ny.us

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, go to the DEC Major Drainage Basins map (http://www.dec.ny.gov/lands/56800.html). Then enter the basin ID by using the drop down menus under Originating and Receiving Major Drainage Basin headings below. Describe the locations of originating and receiving sites in the site description boxes (e.g. Town water intake on Route 12 at northern end of Pleasant Lake to Stony Reservoir near Bear Road).

Originating Major Drainage Basin	Receiving Major Drainage Basin
Originating Site Description	Receiving Site Description

A-585

Section 4

Water Conservation and Efficiencies

All permitted water withdrawal systems must have a Water Conservation Program.

Section A: Public Water Supply Facilities

Are all sources of supply including major interconnections equipped with master meters? Yes ✓ No

What percentage of your system is metered? % Average age of meters: Range of age of meters:

How often were customer meters read this past year (e.g. quarterly, yearly)?

Number of water service connections: Total population served:

How many customer meters were recalibrated and/or replaced in the past year?

Miles of pipe in water distribution system: Length of pipe replaced in the past year:

Miles of pipe on which leak detection was performed using sonic listening equipment: Type of equipment used:

How many system-wide water audits were performed in the past year? Residential charge per 1000 gallons of water: $

What percentage of the water withdrawn was not billed to customers? %. Lost to distribution system leakage? %

Was information about household water saving devices and ways to reduce water use distributed to residential customers? Yes No

Was water conservation information about promoting recycling and reuse distributed to industrial and commercial customers? Yes No

Do you have lawn sprinkling time restrictions (e.g. odd/even days) during periods of peak demand? Yes No

Do you have a plan that takes progressive steps to further reduce outdoor water use during drought conditions with an ordinance or procedure to assure compliance? Yes No If yes, please forward a copy to address shown on page one.

Please review your permit(s) for any specific water conservation conditions and report below on progress made in past year:

Section B: Non-Public Water Supply Facilities (see permitting schedule in NYCRR Part 601.7)

Are all sources of supply including major interconnections equipped with master meters? Yes ✓ No

How often were master meters read in the past year? Monthly

How often were master meters calibrated in the past year? 0

Are there secondary meters located within the facility or system? ✓ Yes No

Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station has retrofitted the circulating water pumps with variable speed drives and vacuum priming systems to allow for variable speed operation. The circulating water pumps are operated at reduced speeds during periods of reduced load, cool weather conditions, or when full flow operation is not required. The reduced operation of the pumps saves millions of gallons from being

A-586

Section 5

Instructions/Definitions

Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased. Use drop down menu.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal to or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn.
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Permitted Rate/Max sys capacity	If unknown, contact NYSDEC at awgrsdec@gw.dec.state.ny.us or 518-402-8182. Maximum system capacity is the sum of all sources simultaneously pumping at full rate.
Calculation Method	M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. E = estimated. C= pump curve calculation
Withdrawn	Amount of water removed from all sources. This includes groundwater and/or surface water.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers. Irrigation is considered "consumed water".
Returned	Amount of water discharged to a water treatment system or discharged back to the environment. Irrigation is not returned water.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

A-587

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management
625 Broadway, Albany, NY 12233-3508

Jan 2013

Water Withdrawal Reporting Form

Due by March 31st each year

Prior to filling out this form, please read the instructions on the last page

This form not for Agricultural Facilities

Section 1

Facility Name Ravenswood G.S.	Facility Street Address 38-54 Vernon Blvd			Reporting Year 11
City Long Island City	Zip 11101	Town N/A	County Queens	
Contact Name Gregory Pryor	Email gregory_pryor@transcanada.com		Telephone (718) 706-2863	

Source Name East River	Source Type S	Well Depth	Max Rate	Units GPM
Source Name NYC DEP	Source Type P	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units
Source Name	Source Type	Well Depth	Max Rate	Units

Average Day Withdrawal: 512.9 MGD	Maximum Day Withdrawal:1,390 MGD	Permitted Withdrawal: 1,390 MGD

Submitted by: Gregory Pryor	Title: Environmental Specialist	Date: 01/17/2012

Water Withdrawal Category (Check one)

- Agricultural
- Bottled / Bulk Water
- Commercial
- Environmental
- Industrial
- Institutional
- Mine Dewatering
- Oil / Gas Production
- Power Production:
- ✓ Fossil Fuel
- Nuclear
- Other Pwr:
- Public Water Supply
- Recreation:
- Golf Course
- Snow Making
- Other Rec:
- Other:

Reset Entire Form | Print Form | Submit by Email

If you submit by this form by email and do not receive a confirmation email, please contact AWQRSDEC@gw.dec.state.ny.us or 518 402-8086.

RAVENSWOOD ANNUAL WATER WITHDRAWAL REPORTING FORM
FOR REPORTING YEAR 2011, DATED JANUARY 17, 2012 [A- 588 - A- 592]

A-588

Section 2

Calculation Method: P M = Metered readings W = Flow through a weir or flume P = Flow through a pipe or pump run times E = Estimated

Units: *Must be in gallons per month*	January	February	March	April	May	June
Withdrawn	5,242,752,000	4,318,272,000	5,329,152,000	16,804,512,000	13,205,952,000	31,740,192,720
Transferred / Imported	13,672,241	10,667,418	9,741,032	16,351,070	14,869,385	16,386,887
Consumed	13,348,020	9,726,411	9,297,747	14,288,168	13,591,687	14,646,072
Returned	5,243,076,221	4,319,213,007	5,329,595,285	16,820,863,070	13,207,229,698	31,741,933,535
Diversions In / Out, if any						

Units: *Must be in gallons per month*	July	August	September	October	November	December
Withdrawn	31966272720	27,636,192,000	23,245,632,000	17,618,022,816	5,960,629,596	4,182,890,481
Transferred / Imported	19,575,367	14,377,080	14,709,603	14,310,816	12,277,596	10,058,481
Consumed	17,686,038	12,956,337	13,528,428	13327842.	11,699,419	9,559,560
Returned	31,968,162,049	27,637,612,743	23,245,632,000	17,603,712,000	5,948,352	4,172,832,000
Diversions In / Out, if any						

Water returned via SPDES outfall 001, 008, 009 and 010

Describe location of returned water

A-589

Section 3

General Map Required

Please submit a map showing location of all withdrawals and any points of return flow. Label all points. **A map is not necessary if one was submitted in a previous year and no changes have occurred.** Precise locations will remain confidential.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. For electronic maps a suggested website is described below:

(1) Go to the USGS National Map site. Type the address of the agricultural facility into the search box.
(2) Zoom in and use any of the map-type choices to best confirm your location.
(3) Designate water withdrawal locations by clicking on the map to add a marker(s).
(4) For surface water withdrawals, use the "Topo" tab.
(5) Add a marker to designate the location of any related dams, weirs, or diversion structures.
(6) Print. Manually label the name of each marked source.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290.
- Print, scan and email to awqrsdec@gw.dec.state.ny.us.
- Copy electronically and email to awqrsdec@gw.dec.state.ny.us.

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, go to the DEC Major Drainage Basins map (http://www.dec.ny.gov/lands/56800.html). Then enter the basin ID by using the drop down menus under Originating and Receiving Major Drainage Basin headings below. Describe the locations of originating and receiving sites in the site description boxes (e.g. Town water intake on Route 12 at northern end of Pleasant Lake to Stony Reservoir near Bear Road).

Originating Major Drainage Basin	Receiving Major Drainage Basin
Originating Site Description	Receiving Site Description

A-590

Section 4

Water Conservation and Efficiencies

All permitted water withdrawal systems must have a Water Conservation Program.

Section A: Permitted Public Water Supply Facilities

Are all sources of supply including major interconnections equipped with master meters? Yes No

What percentage of your system is metered? %. Residential charge per 1000 gallons of water: $

How often were customer meters read this past year (e.g. quarterly, yearly)?

Number of water service connections: Total population served:

How many customer meters were recalibrated and/or replaced in the past year?

Miles of pipe in water distribution system: Length of pipe replaced in the past year:

Miles of pipe on which leak detection was performed using sonic listening equipment: Type of equipment used:

How many system-wide water audits were performed in the past year?

What percentage of the water withdrawn was not billed to customers? %. Lost to distribution system leakage? %

Was information about household water saving devices and ways to reduce water use distributed to residential customers? Yes No

Was water conservation information about promoting recycling and reuse distributed to industrial and commercial customers? Yes No

Do you have lawn sprinkling time restrictions (e.g. odd/even days) during periods of peak demand? Yes No

Do you have a plan that takes progressive steps to further reduce outdoor water use during drought conditions with an ordinance or procedure to assure compliance? Yes No

Please review your permit(s) for any specific water conservation conditions and report below on progress made in past year.

Section B: Water Withdrawal Reporting and Registered Facilities (see permitting schedule in NYCRR Part 601.7)

Are all sources of supply including major interconnections equipped with master meters? Yes No

How often were master meters read in the past year?

How often were master meters calibrated in the past year?

Are there secondary meters located within the facility or system? Yes No

Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

A-591

Section 5

Instructions/Definitions

Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased. Use drop down menu.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal to or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn.
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Permitted Rate	If unknown, contact NYSDEC at AWQRSDEC@gw.dec.state.ny.us or 518-402-8182.
Calculation Method	M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. E = estimated.
Withdrawn	Amount of water removed from all sources.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers.
Returned	Amount of water discharged to a water treatment system or discharged back to the environment.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: "Hudson River near Poughkeepsie", "Groundwater near Auburn".
Major Drainage Basins	Report only "Major Basin" transfers. Use the internet link available on the form and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

Dec. '15

New York State Department of Environmental Conservation
Division of Water, Bureau of Water Resources Management
625 Broadway, Albany, NY 12233-3508

Water Withdrawal Reporting Form

Due by March 31st each year

Prior to filling out this form, please read the instructions on the last page

This form not for Agricultural Facilities

Section 1 of 6 - Basic Information

Facility Name: Ravenswood Generating Station | Facility Street Address: 38-54 Vernon Blvd | Reporting Year: 2016

City: Long Island City | Zip: 11101 | Town: New York | County: Queens

Contact Name: Tanja Grzeskowitz | Email: tanja_grzeskowitz@transcanada.com | Telephone: (718)706-2705

Source Name	Source Type	Well Depth	Max Rate	Units
East River	S		1,527.84	MGD
NYC DEP	P			MGD

668	MGD	1,452	MGD	1,527.84	MGD
Average Day Withdrawal	Units	Maximum Day Withdrawal	Units	Maximum System Capacity or NYSDEC Permitted Withdrawal	Units

Submitted by: Tanja Grzeskowitz | Title: Environmental Specialist | Date: 3/24/2017

Water Withdrawal Category

(Check One)

- ○ Agricultural - Must use form at http://www.dec.ny.gov/lands/86904.html
- ○ Bottled / Bulk Water
- ○ Commercial
- ○ Environmental
- ○ Industrial
- ○ Institutional
- ○ Mine Dewatering
- ○ Oil / Gas Production
- Power Production:
  - ◉ Fossil Fuel
  - ○ Nuclear
  - ○ Other Pwr
- ○ Public Water Supply
- Recreational:
  - ○ Golf Course
  - ○ Snow Making
  - ○ Other Rec
- ○ Other Category

RAVENSWOOD ANNUAL WATER WITHDRAWAL REPORTING FORM FOR REPORTING YEAR 2016, DATED MARCH 24, 2017 [A-593 - A-600]

A-593

Water Withdrawal Reporting Form

Section 2 of 6 - Water Use

Calculation Method: P

If multiple methods are used, choose the one that measures the greatest percentage of water in your system. E = Estimated M = Metered readings W = Flow through a weir P = Flow through a pipe or pump run times C = Pump curve calculation

Units: Must be in gallons per month	January	February	March	April	May	June
Withdrawn	5,990,898,314	6,471,911,282	11,623,733,453	13,106,449,212	28,927,208,695	28,736,859,324
Transferred / Imported / Purchased	11,014,952	11,918,643	17,194,792	17,879,532	18,095,172	23,478,681
Consumed	8,564,309	9,892,065	14,479,564	15,948,372	15,297,236	20,836,941
Returned	5,993,348,957	6,473,937,860	11,626,448,681	13,108,380,372	28,930,006,631	28,739,501,514
Diversions In / Out, if any						

For Transferred water or Diversions Out, use a negative (-) sign

Units: Must be in gallons per month	July	August	September	October	November	December
Withdrawn	33,811,412,270	37,910,845,839	31,127,152,079	27,395,382,010	8,477,890,309	10,085,642,964
Transferred / Imported / Purchased	31,037,059	27,017,878	22,488,715	17,895,327	9,214,502	13,578,267
Consumed	8,696,041	22,190,496	19,992,175	15,134,033	8,058,332	10,847,818
Returned	33,833,753,288	37,915,673,221	31,129,648,619	27,389,143,304	8,479,046,479	10,088,373,413
Diversions In / Out, if any						

Describe location of returned water: Water is returned to the East River via SPDES outfalls 001, 008, 009, 010. These points are annotated as discharges 1 through 4 respectively on the attached map.

A-594

Water Withdrawal Reporting Form

Section 3 of 6 - General Map and Interbasin Diversions

General Map Required

Please submit a map showing the location of all withdrawals and any points of return flow. Precise locations will remain confidential.

A map is not necessary if one was submitted in a previous year and no changes have occurred.

A paper copy of a USGS map or other high quality map or an electronically generated map can be faxed, mailed, or emailed. Please ensure that the map scale is sufficient to be able to see specific locations. Designate all water withdrawal locations on the map. Add markers to locate any related dams, weirs, or diversion structures. Label the name of each point.

Submit your map to DEC in one of the following ways:

- Print and mail or fax to 518 402-8290. Include cover letter identifying facility owner.
- Print, scan and email to awqrsdec@dec.ny.gov
- Copy electronically and email to awqrsdec@dec.ny.gov

Interbasin Diversions

Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, go to the DEC Major Drainage Basins map (http://www.dec.ny.gov/lands/56800.html). Then enter the basin ID by using the drop down menus under Originating and Receiving Major Drainage Basin headings below. Describe the locations of originating and receiving sites in the site description boxes (e.g. Town water intake on Route 12 at northern end of Pleasant Lake to Stony Reservoir near Bear Road).

Originating Major Drainage Basin		Receiving Major Drainage Basin	
Basin Name		Basin Name	
Originating Site Description		Receiving Site Description	

A-595

Water Withdrawal Reporting Form

Section 4 of 6 - Water Conservation and Efficiencies

Instructions: Check one of the boxes below for EITHER Section A or Section B, as appropriate for your facility type. A list of questions pertinent to that facility type will appear. Please answer all questions.

☐ Section 4A: Public Water Supply Facilities

☒ Section 4B: Non-Public Water Supply Facilities

If the incorrect box is selected, just scroll back up a page and change selection

NOTE: All permitted water withdrawal systems must have a Water Conservation Program.

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Water Withdrawal Reporting Form

Section 4B: Non-Public Water Supply Facilities

(see permitting schedule based on NYCRR Part 601.7)

Please answer all the questions in this section

1. Are all sources of supply including major interconnections equipped with master meters? ○ Yes ◉ No

2. How many times were master meters read in the past year? 12

3. How many times were master meters calibrated in the past year? 0

4. Are there secondary meters located within the facility or system? ◉ Yes ○ No

5. Identify other water conservation and efficiency measures currently used in your system (e.g. Best Management Practices such as recycling process and cooling waters, use of drip irrigation and moisture probes, utilizing storm water runoff and reclaimed wastewater or conducting facility water audits):

The station circulating water pumps have variable speed drives and vacuum priming systems to allow for variable speed operation. The circulating water pumps are operated at reduced speeds during periods of reduced load, cool weather conditions, or when full flow operation is not required. The reduced operation of the pumps saves millions of gallons from being withdrawn from the East River daily.

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Water Withdrawal Reporting Form

Section 5 of 6 - Outside Sales to Other Water Systems or Facilities

Instructions:

Permittees must record any sales to outside water systems or facilities. If this applies to your facility, please check the box titled, "Section 5 - Outside Sales" and fill in the information requested.

If your facility does not sell water to systems or facilities other than your own, skip the section by clicking the box for "No Outside Sales".

☐ Section 5 - Outside Sales

☒ No Outside Sales

If the incorrect box is selected, just scroll back up a page and change selection

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Water Withdrawal Reporting Form

Section 6 of 6 - Forward Form To NYSDEC

Unless required fields have not been filled in, the form can now be sent to NYSDEC. To send the form electronically, simply click the green box titled, "Click here to submit by email after filling out all sections of this form". Alternatively, the form can be printed and then mailed or faxed to NYSDEC at the address found on the first page.

When the form is sent by clicking the "submit by email" button, an automatic confirmation is returned. If this does not arrive within 10 minutes, please contact awqrsdec@dec.ny.gov

Click here to submit by email after filling out all sections of this form

Print Form

Print Blank Form For Handwritten Submission

Clear Entire Form

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Water Withdrawal Reporting Form
Instructions & Definitions

Agricultural Purpose	The practice of farming for crops, plants, vines and trees, and the keeping, grazing or feeding of livestock, for sale of livestock or livestock products. Agricultural facilities must use the form titled "Registration and Water Withdrawal Reporting Form for Agricultural Facilities".
Public Water Supply	Supply water to the public. Examples include: municipality, hotel, apartment, restaurant, church, campground, etc.
Source Name	Name of well or surface water body (e.g., Well No. 1, Alcove Reservoir, etc.). List all sources including unused or back-up wells.
Source Type	S = Stream or River. L = Pond or Lake. R = Reservoir. BW = Bedrock Well. UW = Unconsolidated Well (e.g., sand and gravel). SP = Spring. P = Purchased.
Well Depth	Total depth in feet below ground surface. Leave blank for surface sources.
Max Rate	Maximum potential withdrawal rate of the water source. Will be equal to or greater than Permitted Rate.
Units (Max Rate)	Gallons per minute (gpm), gallons per day (gpd), or million gallons per day (mgd). Use drop down menu.
Average Day Withdrawal	Total amount withdrawn during reporting year divided by total days withdrawn.
Maximum Day Withdrawal	Largest single day withdrawal rate of the source during the reporting year.
Maximum Sys Capacity or Permitted Withdrawal	If permit information is unknown, contact NYSDEC at awqrsdec@dec.ny.gov or 518-402-8182. Maximum system capacity is the sum of all sources simultaneously pumping at full rate.
Calculation Method	If multiple methods are used, choose the one that measures the greatest percentage of water in your system E = estimated. M = metered readings. W = flow through a weir or flume. P = flow through a pump or pump run time. C = Pump curve calculation.
Withdrawn	Amount of water removed from all sources. This includes groundwater and/or surface water.
Transferred/Imported	Amount of water brought in from or sent to another facility, includes bulk sales. For transferred water use a negative (-) sign.
Consumed	Amount of water not returned (e.g. water incorporated into a product or lost through evaporation). Public water suppliers must use metered sales to customers. Irrigation is considered "consumed water".
Returned	Amount of water discharged to a water treatment system or discharged back to the environment. Irrigation is not returned water.
Diversions In/Out	Amount of water, if any, diverted from/to another major drainage basin. For Diversions Out, use a negative (-) sign.
Location of Returned Water	State the general area where returned water is discharged. Example: “Hudson River near Poughkeepsie”, “Groundwater near Auburn”.
Major Drainage Basins	Report only “Major Basin” transfers. Use the internet link available on the form and enter Basin ID into the box indicated (use drop down menu). Describe the location of originating withdrawal and receiving discharge. Be as specific as possible.
Water Audit	A water audit is a thorough examination of the accuracy of water records and system control equipment to determine water system efficiency and to identify, quantify, and verify water and revenue losses. Water audits are beneficial in identifying the amount of unaccounted-for water.

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