

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 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.

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/l 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.