

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**

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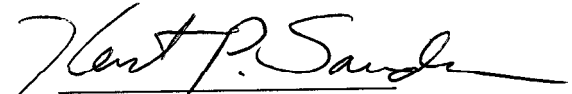
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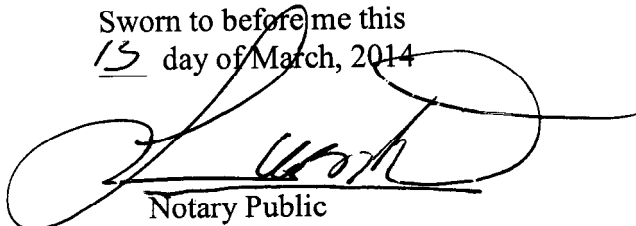
CERTIFICATION PURSUANT TO CPLR § 7804(e)

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.

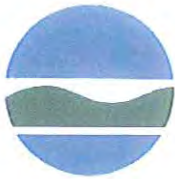
Dated: Albany, NY  
March 13, 2014

  
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 14  
Commission Expires July 17, 2014



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 [X] 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 [X] Power Production [ ] Recreational
[ ] Other:

5. WITHDRAWAL TYPE [X] 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 [X] 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?
[X] 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 [X] 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 [X] 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(b) GENERAL MAP (e.g. Project Location, For Public Water Supplies - water service area boundary) See Figure # 1
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(d) CONTRACT PLANS (Public Water Supplies should submit directly to NYSDOH for review and approval) Not Applicable
601.10(e) ENGINEER'S REPORT (Signed by NYS PE, includes project description, water source yields and demands, etc.) See Appendix A
601.10(f) WATER CONSERVATION PROGRAM (Completed Water Conservation Program Form) See Appendix B
601.10(g) ANNUAL REPORTING FORM FOR EXISTING WITHDRAWALS (Most recent submitted annual report) See Appendix C
601.10(h) ACQUISITION MAPS (Map of any lands to be acquired as part of project) Not Applicable
601.10(i) WATER ANALYSES (Public Water Supplies should submit chemical & bacterial analysis directly to NYSDOH) Not Applicable
601.10(j) TREATMENT METHODS (Public Water Supplies - proposed methods to meet NYSDOH standards) Not Applicable
601.10(k) PROJECT JUSTIFICATION (Provide summary statement of answers to the eight justification questions) See Section (K)
601.10(l) CANAL WITHDRAWAL APPROVALS (If applicable, provide adequate proof of approval from Canal Authority) Not Applicable
601.10(m) TRANSMITTAL LETTER (Include all contact information for applicant, attorney, engineer, etc.) See Section M
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 [Handwritten 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 environmental 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).



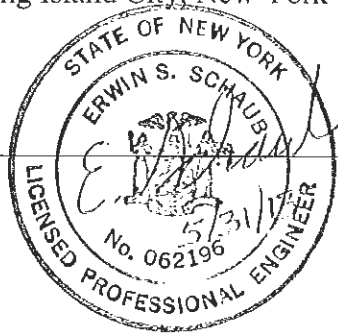
# Appendix A

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 through 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

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.*

	Unit 10			Unit 20			Unit 30			AVG. Water Withdrawal Conservation All Units (GPD)
	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)	
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 CWP's 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;

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.

<u>Fire Protection System</u>	<u>Flow</u>
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.

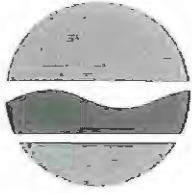
**11. For surface water sources, information on rainfall, stream flows and classifications, contributing watershed size, location of nearby USGS stream gauges, other upstream water withdrawals, safe yield analysis or passby flow calculations and proposed withdrawal methods including intake structure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

# 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**

<b>Facility Name:</b> Ravenswood Generating Station	<b>DEC No.</b>
<b>Street Address:</b> 38-54 Vernon Blvd	<b>WWA No.</b>
<b>Post Office Box:</b>	<b>County:</b> Queens
<b>State:</b> New York	<b>ZIP:</b> 11101
<b>Contact Name:</b> Kenneth Yager	
<b>Street Address:</b> 38-54 Vernon Blvd	
<b>Post Office Box:</b>	<b>County:</b> Queens
<b>State:</b> New York	<b>ZIP:</b> 11101
<b>Applicant's Telephone:</b> 7,187,062,702	<b>Contact's Telephone:</b> 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		
<b>TOTAL UNACCOUNTED-FOR WATER</b>		Sub-total	<b>0</b>	<b>0</b>
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, <a href="http://www.dec.ny.gov/lands/39346.html">http://www.dec.ny.gov/lands/39346.html</a>			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.

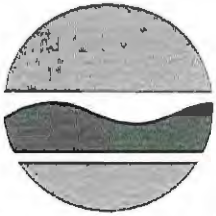
The WCPF has been set up to cover the following basic elements of a water conservation program: Source Water Inventory, Water Usage and Metering, Water Auditing, Leak Detection/Repair, and Water Use Reduction. The Best Management Practices listed at the bottom of each page represent DEC water conservation 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)

<b>Section 1</b>						Reporting Year: <input type="text" value="2012"/>	
Facility Name:	<input type="text" value="Ravenswood Generating Station"/>	Facility Street Address:	<input type="text" value="38-54 Vernon Boulevard"/>				
City:	<input type="text" value="Long Island City"/>	Zip:	<input type="text" value="11101"/>	Town:	<input type="text"/>	County: <input type="text" value="Queens"/>	
Contact Name:	<input type="text" value="Gregory Pryor"/>	Email:	<input type="text" value="gregory_pryor@transcanada.com"/>		Telephone:	<input type="text" value="(718) 706-2863"/>	
Source Name:	<input type="text" value="East River"/>	Source Type:	<input type="text" value="S"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text" value="1,514.5"/> Units <input type="text" value="MGD"/>	
Source Name:	<input type="text" value="NYC DEP"/>	Source Type:	<input type="text" value="P"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text" value="GPM"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
Source Name:	<input type="text"/>	Source Type:	<input type="text"/>	Well Depth:	<input type="text"/>	Ft Max Rate: <input type="text"/>	Units <input type="text"/>
If an interbasin diversion occurs, check this box <input type="checkbox"/> and enter information in Section 3							
Average Day Withdrawal:	<input type="text" value="486"/>	MGD	Maximum Day Withdrawal:	<input type="text" value="1,489.7"/>	MGD	Permitted Withdrawal: <input type="text"/>	MGD
Submitted by:	<input type="text" value="Gregory Pryor"/>		Title:	<input type="text" value="Environmental Specialist"/>		Date:	<input type="text" value="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:

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



**Section 2**

Calculation Method:

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

UNITS: <i>Must be in gallons per month</i>	January	February	March	April	May	June
<b>Withdrawn</b>	4,180,896,000	2,783,808,000	11,009,952,000	8,614,800,000	10,453,248,000	14,111,136,720
<b>Transferred / Imported</b>	9,552,777	8,833,832	10,944,208	14,300,667	11,448,093	15,332,994
<b>Consumed</b>	8,160,434	7,446,808	8,048,021	12,381,599	9,174,934	13,485,679
<b>Returned</b>	4,165,584,343	2,778,859,024	10,952,368,187	8,580,431,068	10,412,897,159	14,065,752,035
<b>Diversions In / Out if any</b>	0	0	0	0	0	0
	July	August	September	October	November	December
<b>Withdrawn</b>	29,130,912,720	21,968,064,000	13,070,304,000	26,265,312,000	24,259,392,000	11,556,288,000
<b>Transferred / Imported</b>	19,580,467	15,648,019	10,588,747	18,948,492	19,466,268	11,703,408
<b>Consumed</b>	16,929,661	13,191,527	8,628,313	15,356,435	16,572,638	10,114,834
<b>Returned</b>	29,034,466,581	21,891,608,492	13,027,912,434	26,176,744,057	24,183,433,630	11,516,980,574
<b>Diversions In / Out if any</b>	0	0	0	0	0	0
<b>Describe location of returned water</b>	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) [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](mailto:awqrsdec@gw.dec.state.ny.us).
- Copy electronically and email to [awqrsdec@gw.dec.state.ny.us](mailto: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?

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):

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.

<b>Section 5 Instructions / Definitions</b>	
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 <a href="mailto:AWQRSDEC@gw.dec.state.ny.us">AWQRSDEC@gw.dec.state.ny.us</a> 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)

<p><b>APPLICATIONS TO</b> 1. <b>NYS Department of Environmental Conservation</b></p> <p>Check all permits that apply:</p> <table border="0"> <tr> <td><input type="checkbox"/> Stream Disturbance</td> <td><input type="checkbox"/> Coastal Erosion Management</td> </tr> <tr> <td><input type="checkbox"/> Excavation and Fill in Navigable Waters</td> <td><input type="checkbox"/> Wild, Scenic and Recreational Rivers</td> </tr> <tr> <td><input type="checkbox"/> Docks, Moorings or Platforms</td> <td><input checked="" type="checkbox"/> Water Withdrawal</td> </tr> <tr> <td><input type="checkbox"/> Dams and Impoundment Structures</td> <td><input type="checkbox"/> Long Island Well</td> </tr> <tr> <td><input type="checkbox"/> 401 Water Quality Certification</td> <td><input type="checkbox"/> Aquatic Vegetation Control</td> </tr> <tr> <td><input type="checkbox"/> Freshwater Wetlands</td> <td><input type="checkbox"/> Aquatic Insect Control</td> </tr> <tr> <td><input type="checkbox"/> Tidal Wetlands</td> <td><input type="checkbox"/> Fish Control</td> </tr> <tr> <td></td> <td><input type="checkbox"/> Incidental Take of Endangered/Threatened Species</td> </tr> </table> <p><input checked="" type="checkbox"/> I am sending this application to this agency.</p>	<input type="checkbox"/> Stream Disturbance	<input type="checkbox"/> Coastal Erosion Management	<input type="checkbox"/> Excavation and Fill in Navigable Waters	<input type="checkbox"/> Wild, Scenic and Recreational Rivers	<input type="checkbox"/> Docks, Moorings or Platforms	<input checked="" type="checkbox"/> Water Withdrawal	<input type="checkbox"/> Dams and Impoundment Structures	<input type="checkbox"/> Long Island Well	<input type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Aquatic Vegetation Control	<input type="checkbox"/> Freshwater Wetlands	<input type="checkbox"/> Aquatic Insect Control	<input type="checkbox"/> Tidal Wetlands	<input type="checkbox"/> Fish Control		<input type="checkbox"/> Incidental Take of Endangered/Threatened Species	<p>2. <b>US Army Corps of Engineers</b></p> <p>Check all permits that apply:</p> <p><input type="checkbox"/> Section 404 Clean Water Act</p> <p><input type="checkbox"/> Section 10 Rivers and Harbors Act</p> <p><input type="checkbox"/> Nationwide Permit(s) - Identify Number(s): _____</p> <p>Preconstruction Notification - <input type="checkbox"/> Y / <input type="checkbox"/> N</p> <p><input type="checkbox"/> I am sending this application to this agency.</p>	<p>3. <b>NYS Office of General Services</b></p> <p>Check all permits that apply:</p> <p><input type="checkbox"/> State Owned Lands Under Water</p> <p><input type="checkbox"/> Utility Easement (pipelines, conduits, cables, etc.)</p> <p><input type="checkbox"/> Docks, Moorings or Platforms</p> <p><input type="checkbox"/> I am sending this application to this agency.</p>	<p>4. <b>NYS Department of State</b></p> <p>Check if this applies:</p> <p><input type="checkbox"/> Coastal Consistency Concurrence</p> <p><input type="checkbox"/> I am sending this application to this agency.</p>
<input type="checkbox"/> Stream Disturbance	<input type="checkbox"/> Coastal Erosion Management																		
<input type="checkbox"/> Excavation and Fill in Navigable Waters	<input type="checkbox"/> Wild, Scenic and Recreational Rivers																		
<input type="checkbox"/> Docks, Moorings or Platforms	<input checked="" type="checkbox"/> Water Withdrawal																		
<input type="checkbox"/> Dams and Impoundment Structures	<input type="checkbox"/> Long Island Well																		
<input type="checkbox"/> 401 Water Quality Certification	<input type="checkbox"/> Aquatic Vegetation Control																		
<input type="checkbox"/> Freshwater Wetlands	<input type="checkbox"/> Aquatic Insect Control																		
<input type="checkbox"/> Tidal Wetlands	<input type="checkbox"/> Fish Control																		
	<input type="checkbox"/> Incidental Take of Endangered/Threatened Species																		

5. <b>Name of Applicant</b> (use full name) TC Ravenswood LLC		<b>Applicant</b> must be: <input checked="" type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Lessee (check all that apply)
Mailing Address 38-54 Vernon Blvd.		
Post Office City Long Island City	Taxpayer ID (If applicant is NOT an individual): 11-3484082	
State NY	Zip Code 11101	
Telephone (daytime) 718.706.2702	Email Kenneth_Yager@transcanada.com	

6. <b>Name of Facility or Property Owner</b> (if different than Applicant)	
Mailing Address	
Post Office City	
State	Zip Code
Telephone (daytime)	Email

7. <b>Contact/Agent Name</b> 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. <b>Project / Facility Name</b> 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 Zip Code NY 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, <b>OR</b> Latitude/Longitude			
NYTM-E	NYTM-N	Latitude 40 45' 41"	Longitude 73 56' 39"

<b>For Agency Use Only</b>	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 condenser to condense exhausted 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: <input type="checkbox"/> Private <input type="checkbox"/> Public <input checked="" type="checkbox"/> Commercial	Proposed Start Date:	Estimated Completion Date:
Has Work Begun on Project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    If Yes, explain. The Ravenswood Generating station has been in operation since 1963.		
Will Project Occupy Federal, State or Municipal Land? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

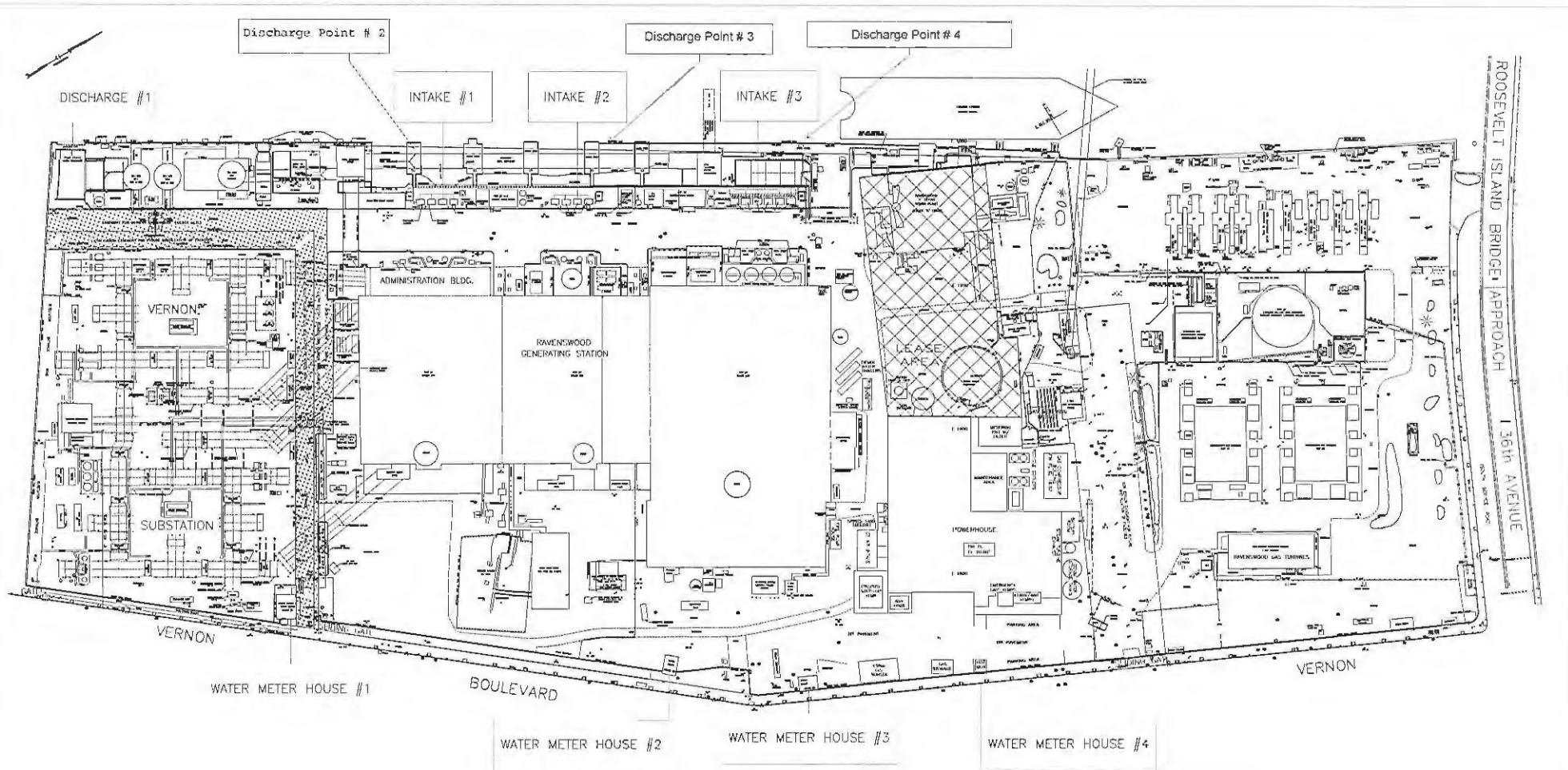
Signature of Applicant	Printed Name	Title	Date
	Kenneth A Yager	Compliance Mgr.	5/31/2013
Signature of Owner	Printed Name	Title	Date
Signature of Agent	Printed Name	Title	Date

<b>For Agency Use Only</b>	<b>DETERMINATION OF NO PERMIT REQUIRED</b>		
_____ (Agency Name)	Agency Project Number _____ has determined that No Permit is required from this Agency for the project described in this application.		
Agency Representative: Name (printed) _____	Title _____		Date _____
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



# Figure 3

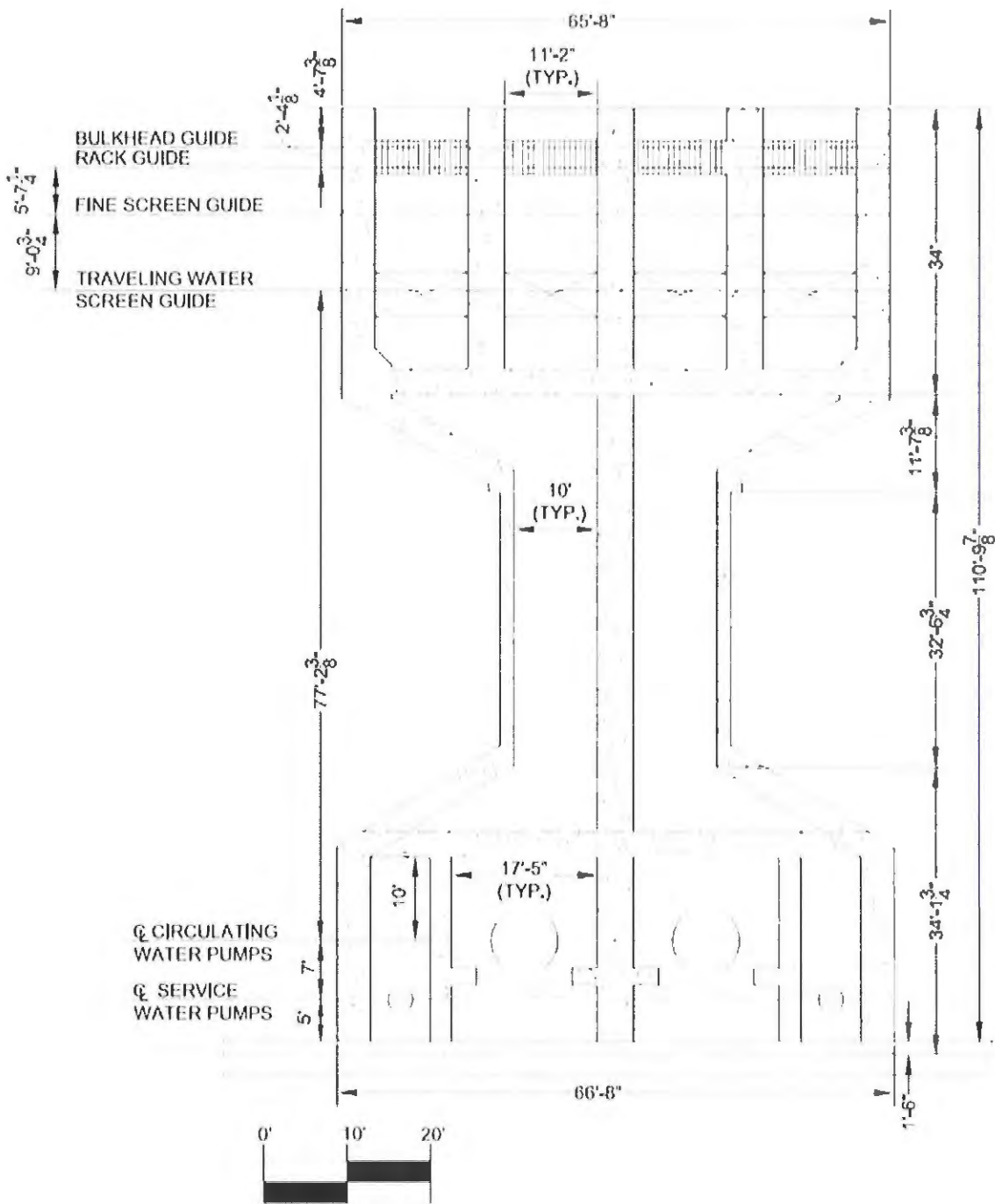


Figure 3 – Ravenswood Generating Station Unit 10 CWIS – Plan  
(Unit 20 is Identical)

# Figure 4

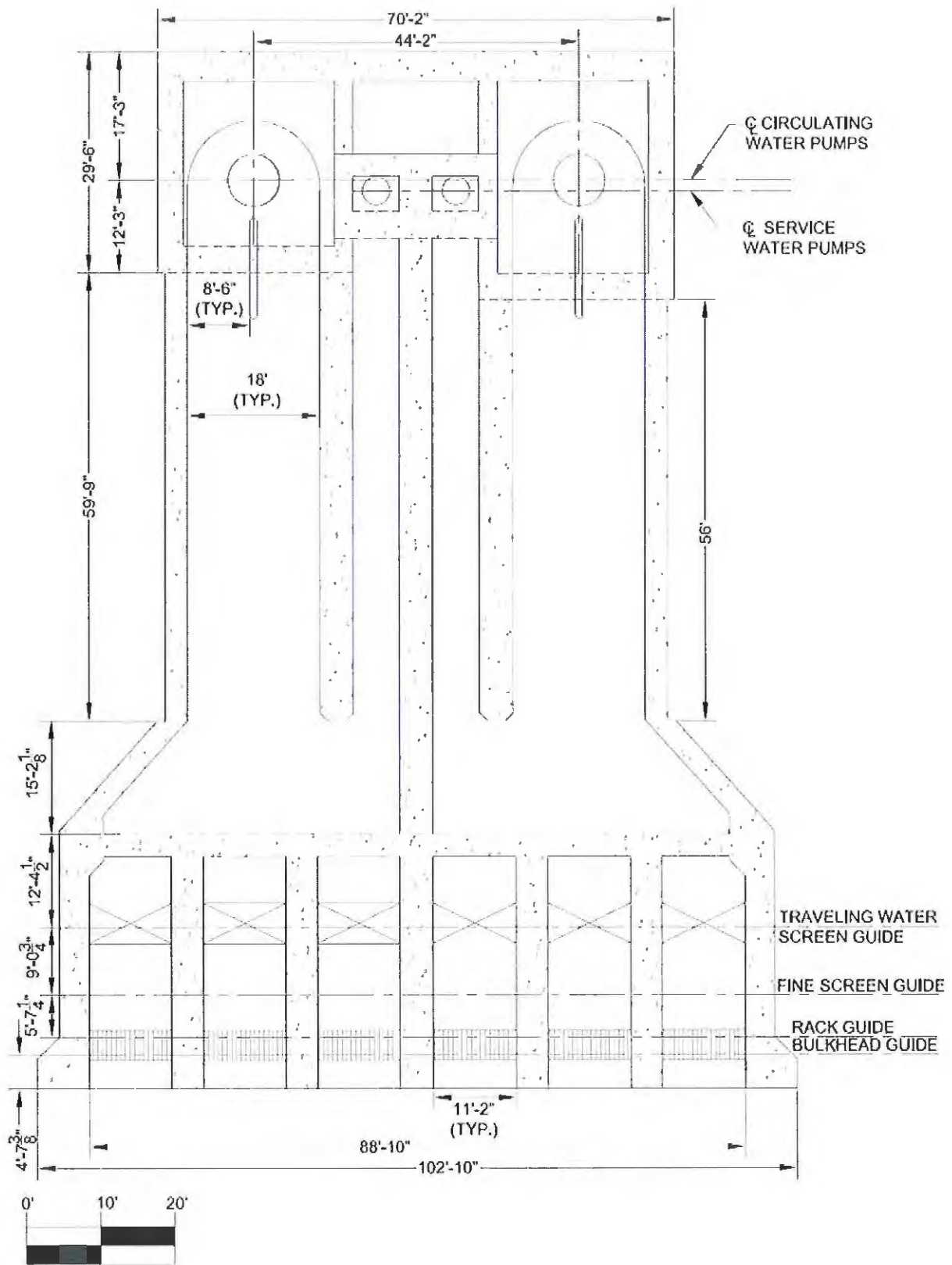
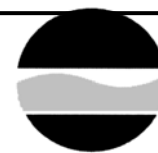


Figure 4 – Ravenswood Generating Station Unit 30 CWIS – Plan

**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



## 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](mailto:r2dep@gw.dec.state.ny.us)

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**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](mailto:r2dep@gw.dec.state.ny.us)

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**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<sub>x</sub> 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](mailto:r2dep@gw.dec.state.ny.us)

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## 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](mailto:depprmt@gw.dec.state.ny.us)

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**Applicant:**

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

**Facility:**

Dayton Beach Park # 1 Corporation

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 Gibraltar 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<sub>x</sub> 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](mailto:r2dep@gw.dec.state.ny.us)

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## 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<sub>x</sub> 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](mailto:r2dep@gw.dec.state.ny.us)

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[Region 2 SEQR and Other Notices](#)  
[Region 2 SPDES Renewals](#)

## 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](mailto:r2dep@gw.dec.state.ny.us).

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#### **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](mailto: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](http://www.dec.ny.gov/chemical/61092.html).

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#### **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](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,

**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](mailto:depprmt@gw.dec.state.ny.us).

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**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.

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## 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.

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**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](mailto:fhuppert@undc.org).

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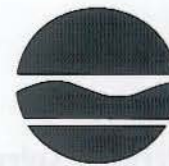
**New York State Department of Environmental Conservation**

**Division of Environmental Permits, 4<sup>th</sup> Floor**

625 Broadway, Albany, NY 12233-1750

Phone: (518) 402-9167 • Fax: (518) 402-9168

Website: [www.dec.ny.gov](http://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(1) 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](mailto: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





**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.

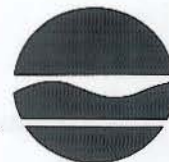
**New York State Department of Environmental Conservation**

**Division of Environmental Permits, 4<sup>th</sup> Floor**

625 Broadway, Albany, NY 12233-1750

Phone: (518) 402-9167 • Fax: (518) 402-9168

Website: [www.dec.ny.gov](http://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,

A handwritten signature in blue ink that reads "Kent P. Sanders". The signature is fluid and cursive, with a long horizontal stroke at the end.

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 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 impingement 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**  
 Discharge Class (CL): **03**  
 Toxic Class (TX): **01**  
 Major Drainage Basin: **17**  
 Sub Drainage Basin: **02**  
 Water Index Number: **ER (0.3 - 10.1)**  
 Compact Area: **IEC**

SPDES Number: **NY- 0005193**  
 DEC Number: **2-6304-00024**  
 Effective Date (EDP): **May 1, 2007**  
 Expiration Date (ExDP): **April 30, 2012**  
 Modification Dates (EDPM):

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**  
 Street: **175 East Old Country Road**  
 City: **Hicksville**

Attention: **Robert D. Teetz**

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**  
 Facility Address: **38-54 Vernon Boulevard**  
 City: **Long Island City**

County: **Queens**

State: **NY** Zip Code: **11101**

NYTM -E: 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**  
 Responsible Official or Agent: **Timothy Curt**

State: **NY** Zip Code: **11801**  
 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: <b>William R. Adriance</b>	
Address: <b>625 Broadway</b> <b>Albany NY 12233-1750</b>	
Signature: <i>William R. Adriance</i>	Date: <b>4/20/07</b>

**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 individual units shall be treated separately.
  - 5 Monitoring is only required 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		
<b>01A</b>	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		
<b>01D</b>	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
<b>01E, 01F &amp; 01H</b>	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
<b>01G</b>	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 µg/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 µg/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
<b>NO MONITORING REQUIRED</b>				

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 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.

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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/dcs/permits/olpermits/index.html](http://www.dec.state.ny.us/website/dcs/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 limits 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(h) 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/npdcs/stormwater/swppp-mscp.cfm>). As a minimum, the plan shall include the following BMPs:

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

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](http://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: (    ) - ### - ####

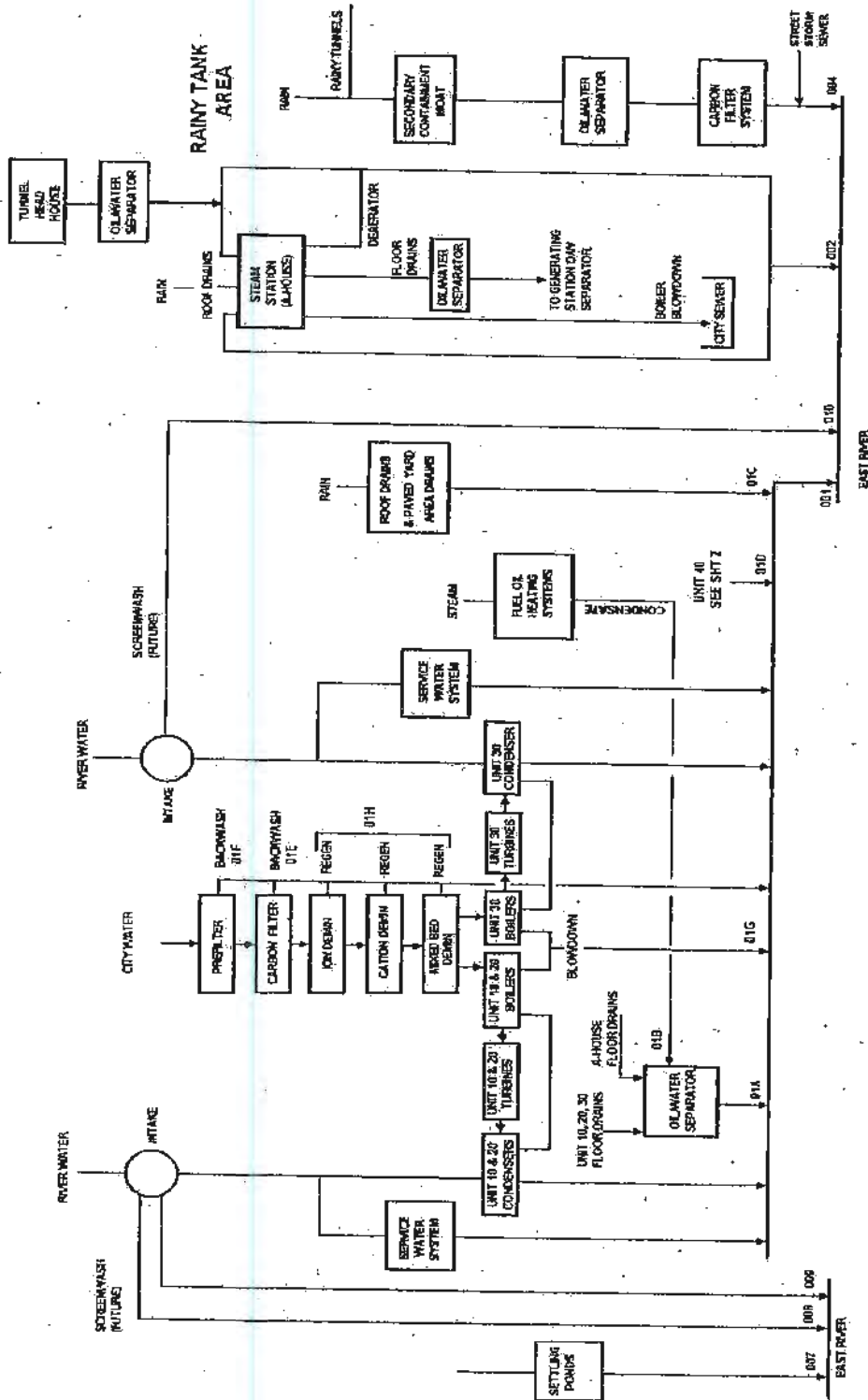
- (e) For each discharge required to have a sign in accordance with a), the permittee shall, concurrent with the installation of the sign, provide a repository of copies of the Discharge Monitoring Reports (DMRs), as required by the **RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS** page 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:

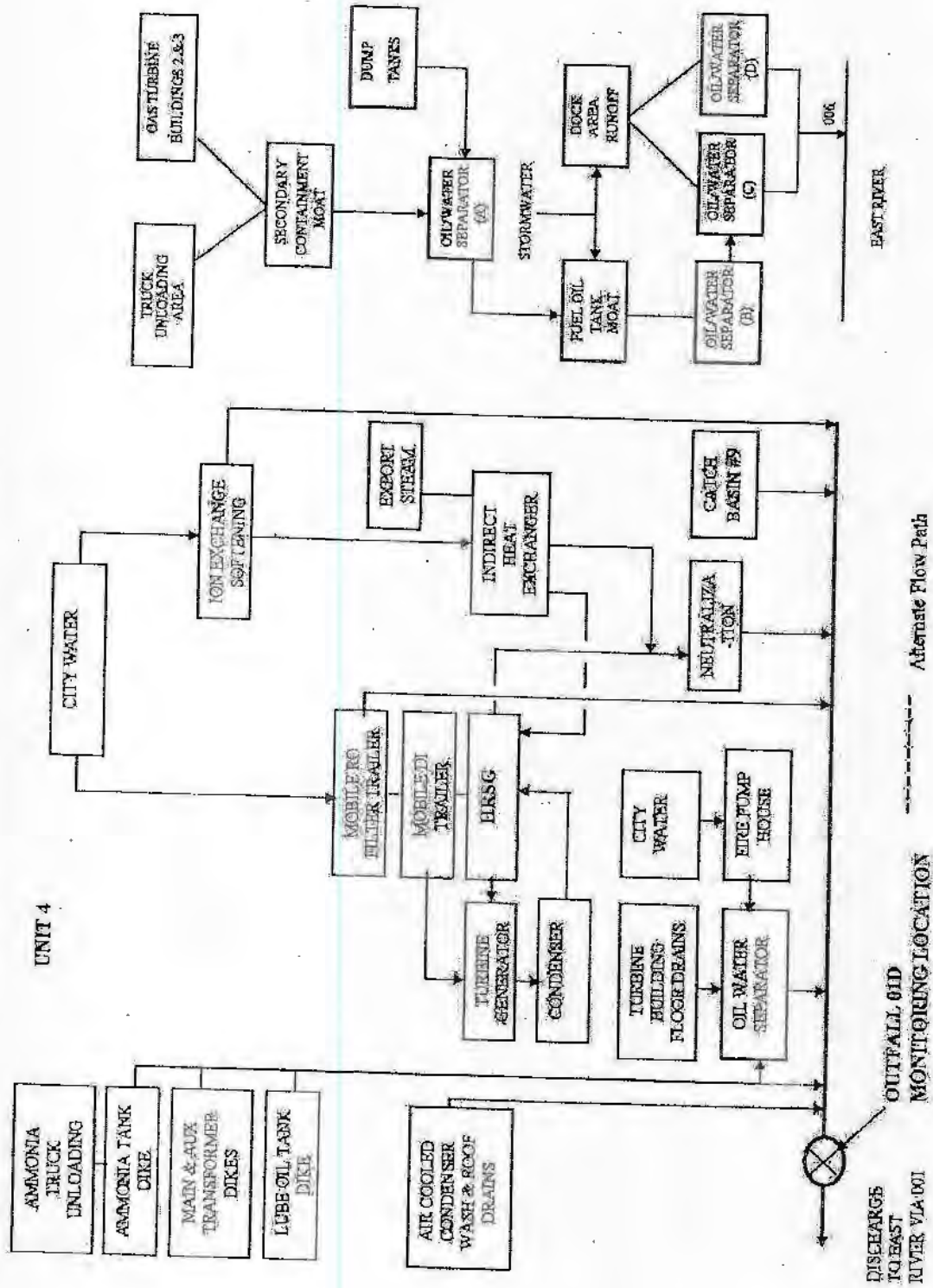
### RAVENSWOOD GENERATING STATION SPDES PERMIT # 0005193





MONITORING LOCATIONS (continued)

RAVENSWOOD COMBUSTION TURBINE SITE - SPDES.# 0005193



**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:

(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 21<sup>st</sup> 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.



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, 5<sup>th</sup> 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](mailto:ccorrado@keyspanenergy.com).

Best Regards,

Christopher Corrado  
Environmental Engineering & Compliance Department

cc: Regional Water Manager, DEC Region 2  
SPDES Compliance Information Section

(w/o Attachments)

	<b>DRAFT</b> <b>Ravenswood Power Station</b> <b>Operation of CWIS</b>	Doc. # Revision: 0 July 2007 Page 1 of 2
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## **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.

	<b>DRAFT</b> <b>Ravenswood Power Station</b> <b>Operation of CWIS</b>	Doc. # Revision: 0 July 2007 Page 2 of 2
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- 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<sup>1</sup> 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

<sup>1</sup> 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

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

<sup>1</sup> Screen wash pump upgrades are required for continuous screen operation

<sup>2</sup> Engineering activities will continue throughout the project.

<sup>3</sup> 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.

**New York State Department of Environmental Conservation**  
**Division of Fish, Wildlife & Marine Resources**  
**Bureau of Habitat, 5<sup>th</sup> 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



## 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 Antidegradation 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													Permit Basis (T or WQ)	
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality – (EEQ)				Technology Based Effluent Limit – (TBEL)					Water Quality Based Effluent Limit					
	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 std/guidance value		T		
Net Addition of Heat (BBTU/hr)	4.34	9.5			10.7		Max		BPJ – existing limit		No std/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



TABLE 2

Outfall #	01A - Floor Drains and Fuel Oil Heating System Condensate													
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	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		BPI, existing limit and 40 CFR Part 423.12(b)(3)					T/WQ

TABLE 3

Outfall #	01D – Boiler Blowdown, Reverse Osmosis Concentrate, Unit 40 stormwater, air cooled condenser wash water & ion exchange regeneration discharge													
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	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												Permit Basis (T or WQ)
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				
	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												Permit Basis (T or WQ)
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				
	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														

TABLE 6

Outfall #		01G - Units 10, 20 & 30 Boiler Blowdown												Permit Basis (T or WQ)
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				
	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.

TABLE 7

Outfall #		01H – Demineralizer Regeneration												Permit Basis (T or WQ)
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	Existing Effluent Quality				Technology Based Effluent Limit					Water Quality Based Effluent Limit				
	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) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	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.std	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

TABLE 9

Outfall #	006 – Stormwater from Gas Turbine Site Secondary Containment & Roof Drains														
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	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 limit	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

TABLE 10

Outfall #		007 – Stormwater from Old Settling Pond												
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	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. std	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

TABLE 11

Outfall #		011 – Stormwater from East Side of Units 10 & 20													
Effluent Parameter (Units) <small>(concentration units - mg/l, ug/l or ng/l; mass units - lbs/d or g/d)</small>	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)					50				BPJ	Narrative standard		Apply TBEL		T	
Oil & Grease (mg/l)	No data – stormwater outfall not yet completed				15				BPJ, limit for visible sheen – narr. std	Narrative standard		Apply TBEL		T	



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
**State Pollutant Discharge Elimination System (SPDES)**  
**DISCHARGE PERMIT**

Industrial Code:	4911	SPDES Number:	<b>NY0005193</b>
Discharge Class (CL):	03	DEC Number:	<b>2-6304-00024/00004</b>
Toxic Class (TX):	T	Effective Date (EDP):	<b>11/01/2012</b>
Major Drainage Basin:	17	Expiration Date (ExDP):	<b>10/31/2017</b>
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: <i>Stuart M. Fox</i>	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	
<b>001</b>	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	
<b>01A</b>	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	
<b>01D</b>	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	
<b>01E, 01F &amp; 01H</b>	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	
<b>01G</b>	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	
<b>004</b>	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	
<b>006</b>	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	
<b>007</b>	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	
<b>011</b>	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
<b>01C</b>	Stormwater			East River via Outfall 001	11/01/2012	10/31/2017
<b>008, 009 &amp; 010</b>	Units 10, 20 & 30 Screen Wash Return			East River	11/01/2012	10/31/2017
<b>NO MONITORING REQUIRED</b>						

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, sludge 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 a 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 °F unless failure to apply chlorine below 40 °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 °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.

### I. 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/npdcs/stormwater/swppp-msgp.cfm> ). As a minimum, the plan shall include the following BMPs:

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

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](http://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)		WTC Manufacturer and Product Name	WTC Function
	Avg	Max		
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:

<b>N.Y.S. PERMITTED DISCHARGE POINT</b>	
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:

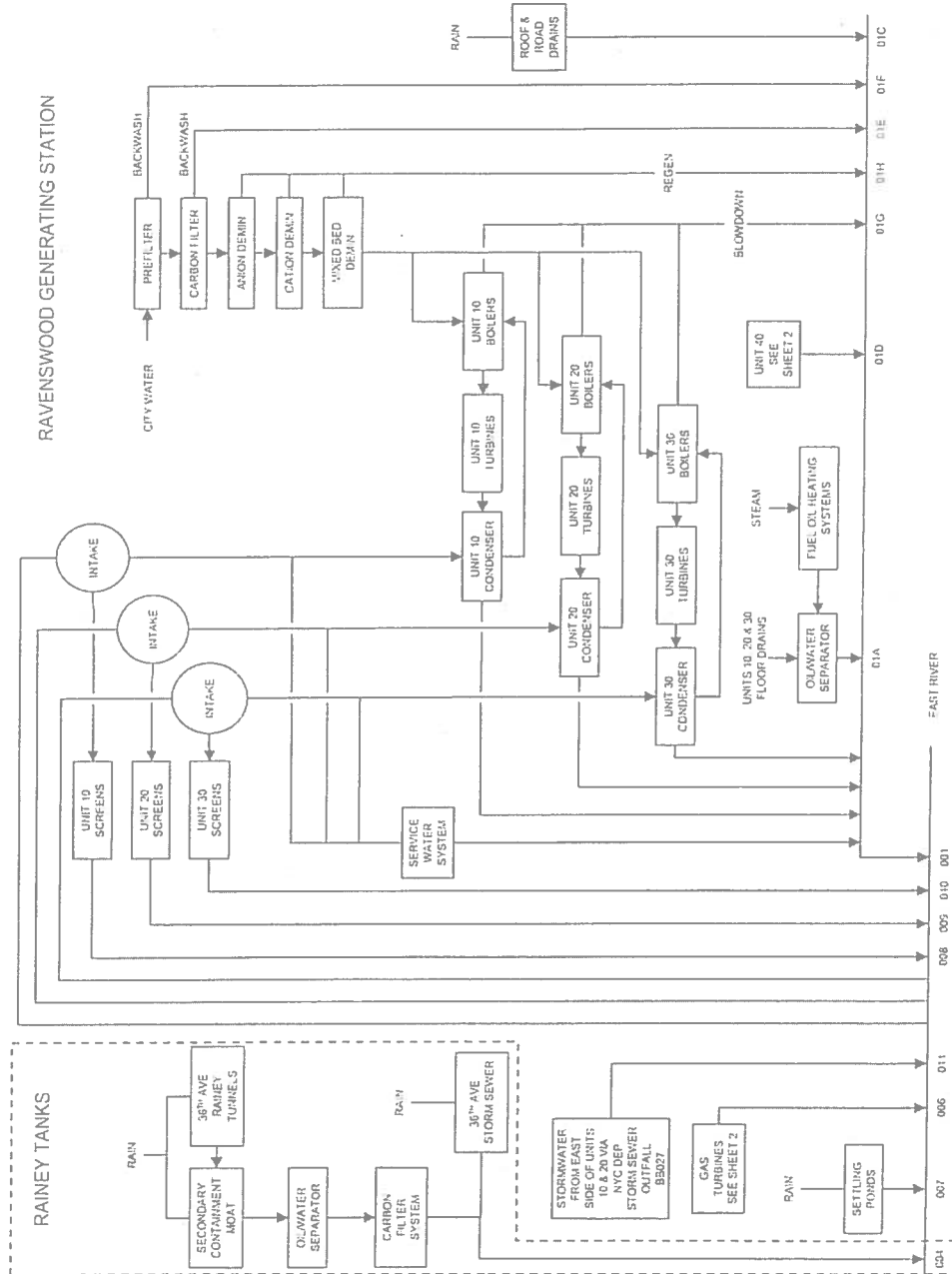
Action Code	Outfall Number(s)	Compliance Action	Due Date
	NA	Submit an approvable report to demonstrate compliance in accordance with permit condition in Biological Monitoring Requirement B.4.c.	VMP Study Completion + 6 months

**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.

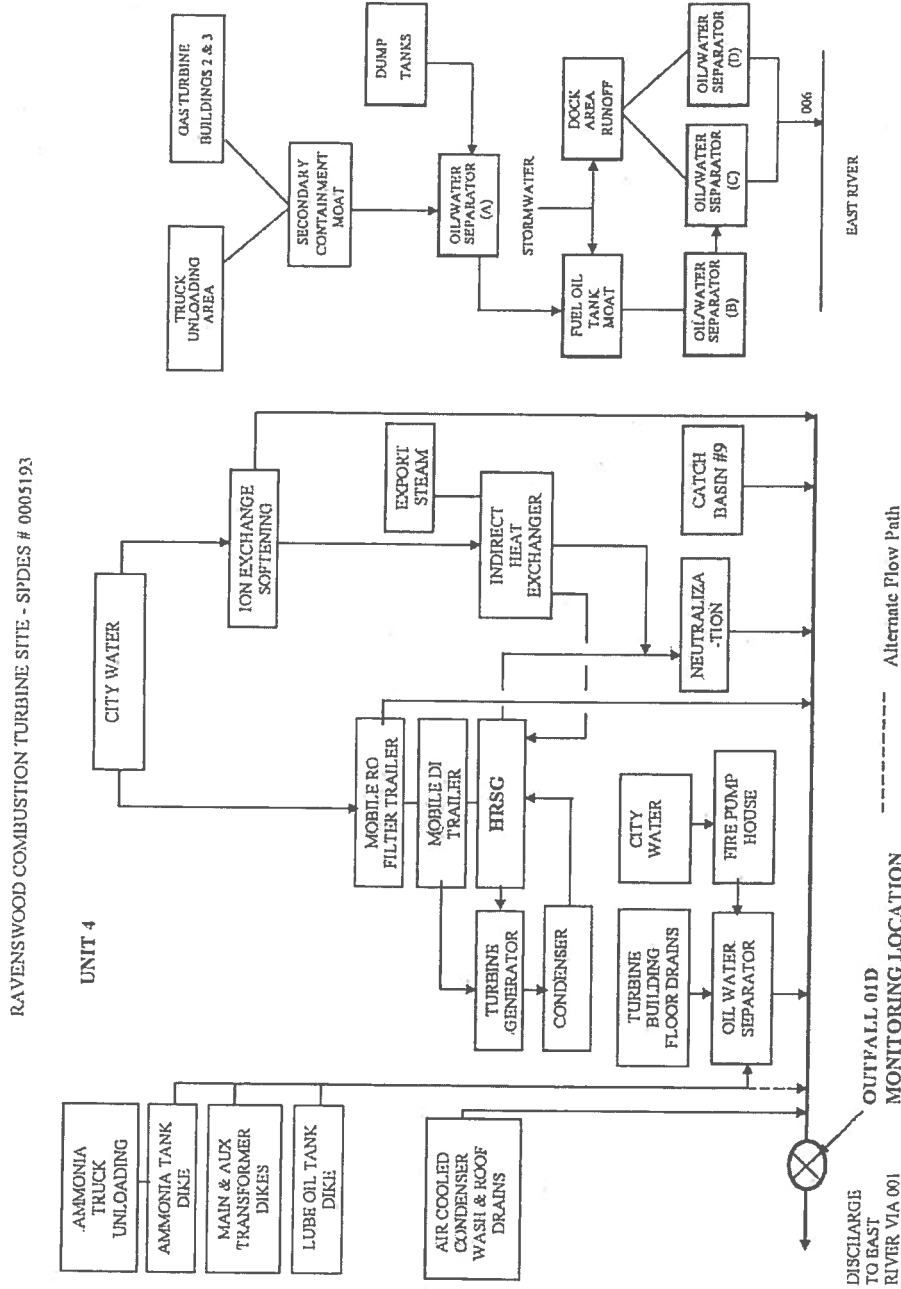
### MONITORING LOCATIONS

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;**

(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 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

Send an **additional copy** of each DMR page to:

- 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.

HISCOCK & BARCLAY <sup>LLP</sup>

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)

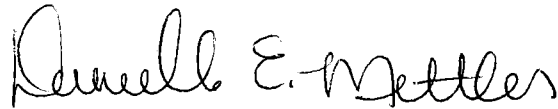
Carol Conyers, Esq.  
Office of General Counsel  
December 18, 2013  
Page 2

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

cc: M. Holt (NYSDEC Division of Water)  
D. O'Donnell (TC Ravenswood L.L.C)



**TransCanada**  
*In business to deliver*

Erwin Schaub PE  
38-54 Vernon Blvd.  
Long Island City, NY 11101

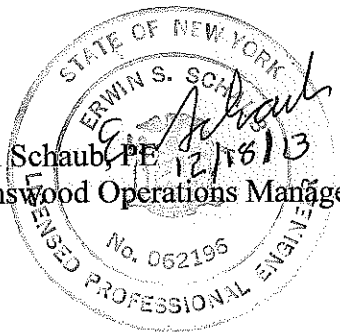
December 17, 2013

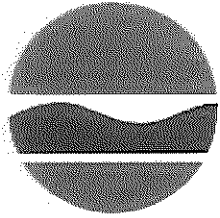
**Ravenswood Generating Station  
Water Withdrawal Permit ID 2-6304-00024/00054**

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	
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	<b>Water Withdrawal Category</b> (check all that apply)  <input type="checkbox"/> Agricultural <input type="checkbox"/> Bottled / Bulk Water <input type="checkbox"/> Commercial <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Institutional <input type="checkbox"/> Mine Dewatering <input type="checkbox"/> Oil / Gas Production Power Production: <input checked="" type="checkbox"/> Fossil Fuel <input type="checkbox"/> Nuclear <input type="checkbox"/> Other Pwr: <input type="text"/> <input type="checkbox"/> Public Water Supply Recreation: <input type="checkbox"/> Golf Course <input type="checkbox"/> Snow Making <input type="checkbox"/> Other Rec: <input type="text"/> <input type="checkbox"/> Other: <input type="text"/>
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:	
Source Name:	Source Type:	Well Depth:	Max Rate:	Units:	
For additional source listings, check this box <input type="checkbox"/> and go to page 3		If an "interbasin diversion" occurs, check this box <input type="checkbox"/> 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: <i>[Signature]</i>		Title: <i>Mgr EO Chemistry</i>		Date: <i>12/10/2011</i>	

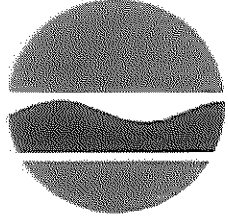
Reset Form

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

For Public Water Supplies Only ..

Population Served:

Percent Water Unaccounted For:

%

See instructions/definitions on p.4

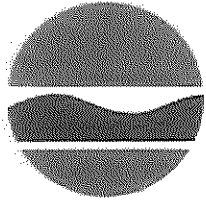
UNITS: Must be gallons per month	January	February	March	April	May	June
Withdrawn	6,004,100,000	6,157,400,000	7,375,700,000	19,418,400,000	16,035,800,000	34,770,200,000
Transferred / Imported	13,672,241	10,667,418	9,741,032	16,351,070	14,869,385	16,386,887
Consumed	11,855,502	8,448,881	8,093,718	13,244,741	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

Page 3 of 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:

Units:

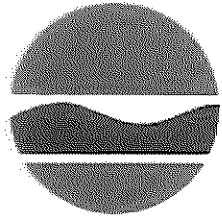
Interbasin Diversions - Fill out this section only if water is being transferred between major drainage basins. To determine basin ID, click the box highlighted in blue ("Click Here To Determine Basin ID"). Enter basin ID. Describe location of originating and receiving sites. (e.g. Town water intake on Smith Lake to Jones Reservoir).

Originating Major Drainage Basin		Receiving Major Drainage Basin		
<a href="#">Click Here To Determine Basin ID</a>	Enter Basin ID Here	→	<a href="#">Click Here To Determine Basin ID</a>	
		→		
Originating Site:		→	Receiving Site:	
		→		

Go to Page 1 to submit form by email

## INSTRUCTIONS / DEFINITIONS

Annual Reporting Fee	\$50 per year for all uses <u>except</u> 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.



**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

Page 1 of 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.ca	
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:			
For additional source listings, check this box <input type="checkbox"/> and go to page 3		If an "interbasin diversion" occurs, check this box <input type="checkbox"/> 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: <i>[Signature]</i>		Title: <i>mgr. E.O. Chemistry</i>		Date: <i>12/10/2013</i>	

**Water Withdrawal Category**  
(check all that apply)

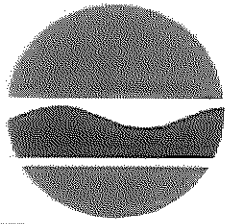
- Agricultural
- Bottled / Bulk Water
- Commercial
- Environmental
- Industrial
- Institutional
- Mine Dewatering
- Oil / Gas Production
- Power Production:
  - Fossil Fuel
  - Nuclear
  - Other Pwr:
- Public Water Supply
- Recreation:
  - Golf Course
  - Snow Making
  - Other Rec:
- Other:

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:  
 See instructions/definitions on p.4

P

For **Public Water Supplies Only** ..

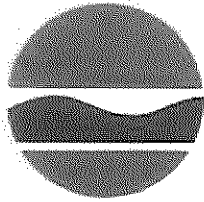
Population Served:

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						

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

Page 3 of 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:
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Source Name:	Source Type:	Well Depth:	Max Rate:
Source Name:	Source Type:	Well Depth:	Max Rate:

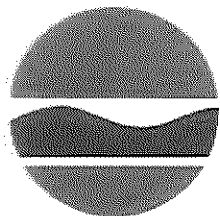
**Interbasin Diversions** - Type name & location of the sites that are originating and receiving the water being transferred out of a major drainage basin. Consult drainage basin map to determine if an inter-basin diversion exists; map and definition of "major drainage basin" at DEC's Water Withdrawal 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 <u>except</u> 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).
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 originating AND receiving water being transferred out of a major drainage basin. Consult the drainage basin map at <a href="http://www.dec.ny.gov/lands/55509.html">http://www.dec.ny.gov/lands/55509.html</a> 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**

<sup>2009</sup> ~~2011~~ 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.ca	
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:			
For additional source listings, check this box <input type="checkbox"/> and go to page 3		If an "interbasin diversion" occurs, check this box <input type="checkbox"/> and go to page 3			
<sup>2009</sup> Ave Day Withdrawal: 568.8 MGD		<sup>2009</sup> Max Day Withdrawal: 1,504.8 MGD		Max Potential Withdrawal Rate, or DEC permit rate: 1,527.84 MGD	
Submitted by: <i>[Signature]</i>		Title: <i>Mgr EO Chemistry</i>		Date: <i>12/10/2013</i>	

**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:

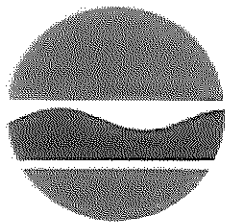
Reset Form

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

For **Public Water Supplies Only** ..

Population Served:

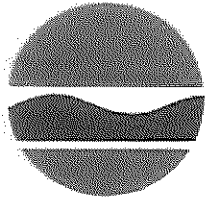
Percent Water Unaccounted For:

 %

See instructions/definitions on p.4

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

Page 3 of 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:
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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	
<a href="#">Click Here To Determine Basin ID</a>	Enter Basin ID Here	→	<a href="#">Click Here To Determine Basin ID</a> Enter Basin ID Here
Originating Site:		→	Receiving Site:
		→	

Go to Page 1 to submit form by email

**INSTRUCTIONS / DEFINITIONS**

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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).
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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.
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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.

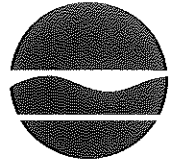
**New York State Department of Environmental Conservation**

**Division of Environmental Permits, 4<sup>th</sup> Floor**

625 Broadway, Albany, NY 12233-1750

Phone: (518) 402-9167 • Fax: (518) 402-9168

Website: [www.dec.ny.gov](http://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

New York State Department of Environmental Conservation

Division of Environmental Permits, 4<sup>th</sup> Floor

625 Broadway, Albany, NY 12233-1750

Phone: (518) 402-9167 • Fax: (518) 402-9168

Website: [www.dec.ny.gov](http://www.dec.ny.gov)

Kent/file



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](mailto:kpsander@gw.dec.state.ny.us).

Sincerely,

Kent P. Sanders  
Deputy Chief Permit Administrator

Enclosures: Permit

cc: M. Holt, DOW  
C. Conyers, OGC



**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. 11,660)

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**



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.