



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

First3.99

Industrial Code:	4911	SPDES Number:	NY- 0004472
Discharge Class (CL):	03	DEC Number:	
Toxic Class (TX):	T	Effective Date (EDP):	
Major Drainage Basin:	13	Expiration Date (ExDP):	
Sub Drainage Basin:	01	Modification Dates:	
Water Index Number:	H		
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:	Entergy Nuclear Indian Point Units #2 and #3 LLC	Attention:	Thomas Teague
Street:	440 H American Avenue		
City:	White Plains	State:	NY Zip Code: 10601

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name:	Entergy Nuclear Indian Point Units #2 and #3 LLC		
Location (C,T,V):	Buchanan (V)	County:	Westchester
Facility Address:	Broadway and Bleakley Avenue		
City:	Buchanan	State:	NY Zip Code: 10511

NYTM -E:		NYTM - N:	
From Outfall No.:	001	at Latitude:	41 ° 16 ' 7 " & Longitude: 73 ° 57 ' 19 "
into receiving waters known as:	Hudson River		Class: SB

and; (list other Outfalls, Receiving Waters & Water Classifications)

001	Hudson River SB	005	Hudson River SB	01B	01P (01B-01P and 008) via 001
002	Hudson River SB	006	Hudson River SB	01C	01J
003	Hudson River SB	007	Hudson River SB	01D	01I
004	Hudson River SB	008	HR via 001 SB	01E	01L
		009	Hudson River SB	01G	01N, 01M

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in this permit and 6 NYCRR Part 750.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name:	Entergy Nuclear Indian Point Units #2 and 3 LLC		
Street:	295 Broadway		
City:	Buchanan	State:	NY Zip Code: 10511
Responsible Official or Agent:	Thomas Teague	Phone:	914-734-6247

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

Permit Administrator:	
Address:	
Signature:	Date: / /

PERMIT LIMITS, LEVELS AND MONITORING DEFINITIONS

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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 <u>Note 1</u> . The effluent limit is developed based on the more stringent of technology-based limits, 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 <u>Note 2</u> , 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: 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	SPECIAL CON. (SC)	EFFECTIVE	EXPIRING
001	Discharge Canal	Hudson River	1-11		

PARAMETER	MINIMUM	MAXIMUM	UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SPECIAL CONDITIONS (SC)
pH	6.0	9.0	SU	Weekly	Grab	

PARAMETER	COMPLIANCE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Total Residual Chlorine	NA	0.2			mg/l	Continuous	Recorder	9,10,11
Lithium Hydroxide	NA	0.01			mg/l	Monthly	Grab	12
Boron	NA	1.0			mg/l	Monthly	Grab	15
Boron	NA	525			lb/day	Monthly	Grab	15
Flow	MONITOR	MONITOR			MGD	Continuous	Recorder	6,8
Temperature	NA	110			degrees F	Continuous	Recorder	3,4,5,7

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
Sum of 01C & 01D	Combined Low volume Wastewater	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Lithium Hydroxide	Monitor	Monitor			mg/l	Monthly	Grab	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
Sum of 01B, 01C, 01D, 01J & 01L	Combined Low volume Wastewater	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitoring				MGD	Weekly	Instantaneous	14
Total Suspended Solids	30	50			mg/l	Weekly	Grab	14, 16

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01C	Unit 2 Primary Waste Disposal System	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitoring				MGD	Weekly	Instantaneous	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01E	Water Treatment Filter and GAC Backwash	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitoring				MGD	Weekly	Instantaneous	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01G	Units 2 & 3 Service Boiler Blowdown	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitoring				MGD	Weekly	Instantaneous	
Phosphates as P	16	38			lb/day	Monthly	Grab	13

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01I	Units 2 & 3 Condenser and Service Waters	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitoring				MGD	Continuous	Recorder	8

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
0IJ	Floor Drains from Units 1, 2, 3 Buildings	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitoring				MGD	Weekly	Estimate Visual Observation	
Oil & Grease		15			mg/l	Weekly	Grab	14

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
Sum of 01C, 01D and 01L	Combined Discharge	Hudson River via Discharge Canal 001		

PARAMETER	ENFORCEABLE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Boron	Monitor	Monitor			mg/l	Weekly	Grab	18
Oil & Grease		15			mg/l	Monthly	Grab	17

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01L	Unit 3 Condenser Polisher/makeup Demineralizer and Ion Exchange Regeneration	Hudson River via Discharge Canal 001		

PARAMETER	COMPLIANCE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			GPD	Weekly	Instantaneous	
pH	Range 6.0 - 9.0				SU	Monthly	Grab	
Chlorine, Total Residual	NA	Monitor			mg/l	Monthly	Grab	
Fluorides			5		lbs/day	Semi-Annual	Grab	
Iron			4		mg/l	Semi-Annual	Grab	
Copper			1.0		mg/l	Semi-Annual	Grab	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01N	Reverse Osmosis Reject	Hudson River via Discharge Canal 001		

PARAMETER	COMPLIANCE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			GPD	Weekly	Instantaneous	
Oil & Grease	NA	15			mg/l	Weekly	Grab	
Total Suspended Solids	30	50			mg/l	Weekly	Grab	

OUTFALL No.	WASTEWATER TYPE	RECEIVING WATER	EFFECTIVE	EXPIRING
01P	Eductor Pit	Hudson River via Outfall 001		

PARAMETER	COMPLIANCE LIMIT		MONITORING ACTION LEVEL		UNITS	SAMPLE FREQUENCY	SAMPLE TYPE	SC
	Monthly Avg.	Daily Max.	TYPE I	TYPE II				
Flow	Monitor	Monitor			GPD	Weekly	Instantaneous	
Oil & Grease	NA	15			mg/l	Weekly	Grab	
Total Suspended Solids	30	50			mg/l	Weekly	Grab	

OUTFALL No. 01M, 002-009 - Uncontaminated Stormwater Discharge

No monitoring required.

SPECIAL CONDITIONS

CONDITIONS FOR OUTFALL 001

1. Discharge through Outfall 001 shall occur only through the subsurface ports of the outfall structure.
2. Sampling location for Outfall 001 is to be located upstream of the discharge from the common discharge canal into the Hudson River.
3. At no time shall the maximum discharge temperature at Outfall 001 exceed 43.3 degrees C (110°F).
4. The maximum discharge temperature at Outfall 001 shall not exceed 34°C (93.2°F) for an average of more than ten days per year; provided that the daily average discharge temperature at Outfall 001 shall not exceed 34°C (93.2°F) on more than 15 days between April 15 and June 30 in any year.
5. When the temperature in the discharge canal exceeds 90°F or the site gross electric output equals or exceeds 600MW, the head differential across the outfall structure shall be maintained at a minimum of 1.75 feet. When required, adjustment of the ports shall be made within four hours of any change in the flow rate of the circulating water pumps. If compliance is not achieved, further adjustments of the ports shall be made to achieve compliance. Flow schedules in Special Condition 6, below, shall take priority over this condition.
6. The permittee must not exceed the maximum flows listed in the table below during the specified periods, unless it is necessary to ensure the safe operation of the facility or to comply with the thermal standards contained in this permit.

Period	Flow in MGD/Unit	Flow in GPM/Unit
January 1 - May 15	726	504,000
May 16 - May 22	806	560,000
May 23 - May 31	968	672,000
June 1 - June 8	1053	731,000
June 9 - September 30	1210	840,000
October 1 - October 31	1053	731,000
November 1 - December 31	726	504,000

If these mitigative flows are exceeded, permittee must send written notification of that exceedance within 5 business days to NYSDEC; Division of Fish, Wildlife and Marine Resources; Leader, Steam Electric Unit; 625 Broadway; Albany, NY 12233-4756.

7. a. The thermal discharge from Outfall 001 is subject to 6 NYCRR Part 704.

- b. Within six months of the effective date of the permit, the permittee shall submit to the NYSDEC, Division of Water, for review and approval, a protocol approvable as defined in 6 NYCRR Part 750-1.2(a)(8) for conducting a tri-axial (3-Dimensional) thermal study. The purpose of the thermal study will be to delineate the 90-degrees Fahrenheit isopleths at various depths and stages of tide to define the size of the mixing zone for the discharge from Outfall 001. The thermal study must be conducted under critical tidal current conditions when all units are operating under summer conditions. Temperatures must be recorded to the nearest degree Fahrenheit. The thermal study shall be conducted within one year after the NYSDEC approves the thermal study protocol. The results of the thermal study shall be submitted to the NYSDEC within three months of the completion of the study. The final report should also include the technical material necessary to satisfy the requirements of 6 NYCRR Part 704.3-Mixing zone criteria. Upon reviewing the results of the thermal study, the Division of Water will determine whether the requirements of 6 NYCRR Part 704.2 have been met. The protocol and final report (3 copies of each) shall be submitted to: NYSDEC, Division of Water, Director of the Bureau of Water Permits, 4th Floor, 625 Broadway, Albany, New York 12233-3505.
8. The flow of condenser cooling water discharges shall be monitored and recorded every eight hours by recording the operating mode of the circulating water pumps. Any changes in the flow rate of each circulating water pump shall be recorded, including the date and time, and reported monthly together with the Discharge Reporting Form. The permittee shall indicate whether any circulating pumps were not in operation due to pump breakdown or required pump maintenance and the period(s) (dates and times) the discharge temperature limitation was exceeded, if at all. Methods, equipment, installation, and procedures shall conform to those prescribed in the Water Measurement Manual, U.S. Department of the Interior, Bureau of Reclamation, Washington D.C.: 1967 or equivalent approved by the NYSDEC.
9. a The service water system may be chlorinated continuously.
- b. Should the condenser cooling water system be chlorinated, the maximum frequency of chlorination for the condensers of each unit shall be limited to two hours per day. The total time for chlorination of the three units for which this permit is issued shall not exceed nine hours per week. Chlorination shall take place during daylight hours and shall not occur at more than one unit at a time.
10. Continuous monitoring of Total Residual Chlorine (TRC) during condenser chlorination is required. If the continuous monitor fails, is inaccurate, or is unreliable, TRC shall be monitored during condenser chlorination by analyzing grab samples taken at least once every 30 minutes during each chlorination period.
11. Grab samples shall be taken at least once daily during low level service water chlorination and at least once every 30 minutes during high level service water chlorination. During service water chlorination, Outfall 001 TRC concentrations may be determined by either direct measurement at Outfall 001 or by multiplying a measured TRC concentration in the service water system by the ratio of chlorinated service water flow to the total site flow.

CONDITIONS FOR SUB-OUTFALLS

12. The calculated quantity of lithium hydroxide in the discharge shall be determined by using the analytical results obtained from sampling that is to be performed on internal waste streams 01C and 01D.
13. Phosphate limit applies to only those internal streams at Indian Point 2 and 3 which comprise outfall 01G.

14. Because Outfall 01J cannot be monitored, the following shall apply:
 - a. All oil spills shall be handled under the Spill Prevention Control and Countermeasure (SPCC) plan.
 - b. Flow into the floor drains shall not contain more than 15 mg/l of oil and grease nor any visible sheen.
 - c. Treated wastewater from the desilting operation within the intake structure and forebays shall be monitored once per 12 hour shift on the sand filter effluent. Grab samples shall be analyzed for total suspended solids and oil and grease. An estimate of discharge flow rate and a visual observation for the presence of any visible sheen shall be made on the sand filter effluent. The limitations for this discharge event are: 15 mg/l (oil & grease), 50 mg/l (total suspended solids) and no visible sheen.
15. The calculated quantity of boron in the discharge shall be determined by using the analytical results obtained from sampling that is to be performed on internal waste streams 01B, 01C, 01D and 01L.
16. One flow proportioned composite sample of total suspended solids (TSS) shall be obtained from one grab sample taken from each of the internal waste streams 01B, 01C, 01D, 01J and 01L.
17. One grab sample of oil and grease shall be obtained from each of the internal waste streams 01C, 01D, and 01L and the samples shall be analyzed separately. The results shall be reported by computing the flow-weighted average.
18. One flow proportioned composite sample of boron shall be obtained from one grab sample taken from each of the internal waste streams 01B, 01C, 01D, 01L.

WATER QUALITY REPORTING REQUIREMENTS:

19. The permittee shall submit on an annual basis to the NYSDEC at its offices in Tarrytown and Albany (see addresses below) a month-by-month report of daily operating data in EXCEL[®] format, by the 28th of January of the following year, that includes the following:
 - a. Daily minimum, maximum and average station electrical output shall be determined and logged.
 - b. Daily minimum, maximum and average water use shall be directly or indirectly measured or calculated and logged.
 - c. Temperature of the intake and discharges shall be measured and recorded continuously. Daily minimum, maximum and average intake and discharge temperatures shall be logged.
 - d. One copy of each annual report must be sent to the NYSDEC; Division of Water, Bureau of Watershed Compliance Programs; 625 Broadway; Albany, New York 12233-3506; and a second copy must be sent to NYSDEC; Regional Water Engineer, Region 3; 200 White Plains Road; Tarrytown, New York 10591.

20. Beginning upon the effective date of this permit, the permittee shall submit to the NYSDEC Offices in Albany and Tarrytown (see addresses in condition 19.d., above), a copy of their Semi-Annual Effluent and Waste Disposal Reports submitted to the Nuclear Regulatory Commission (NRC).

OTHER WATER QUALITY REQUIREMENTS

21. Notwithstanding any other requirements in this permit, the permittee shall also comply with all applicable Water Quality Regulations promulgated by the Interstate Environmental Commission (IEC), including Sections 1.01 and 2.05 (f) as they relate to oil and grease.
22. It is recognized that, despite the exercise of appropriate care and maintenance measures, and corrective measures by the permittee, influent quality changes, equipment malfunction, acts of God, or other circumstances beyond the control of the Permittee may, at times, result in effluent concentrations exceeding the permit limitations. The permittee may come forward to demonstrate to the NYSDEC that such circumstances exist in any case where effluent concentrations exceed those set forth in this permit. The NYSDEC, however, is not obligated to wait for, or solicit, such demonstrations prior to the initiation of any enforcement proceedings, nor must it accept as valid on its face the statement made in any such demonstration.
23. All chemicals listed and/or referenced in the permit application are approved for use. If use of new biocides, corrosion control chemicals or water treatment chemicals is intended, application must be made prior to use. No use will be approved that would cause exceedance of state water quality standards.
24. There shall be no net addition of PCBs by this facility's discharges to the Hudson River.

BIOLOGICAL REQUIREMENTS:

25. The permittee must continue to conduct the following long term Hudson River Monitoring programs during each calendar year:
- a. Long River Ichthyoplankton, Fall Shoals Trawls, and Beach Seine Survey
All data recording, analysis of samples, and Quality Control and Assurance must be conducted in accordance with the 2002 Standard Operating Procedures (Normandeau Associates Inc., 2002) or in accordance with modified procedures approved in advance by the NYSDEC. The permittee must produce an annual year class report that presents the results of the above studies. Each annual report must be submitted to: NYSDEC; Division of Fish, Wildlife and Marine Resources; Leader, Steam Electric Unit, 625 Broadway, Albany, NY 12233-4756, no later than December 31 of the next calendar year.
 - b. Striped Bass/Atlantic Tomcod Mark-Recapture Survey
All data recording, analysis of samples, and Quality Control and Assurance must be conducted in accordance with the 2001-2002 Standard Operating Procedures (Normandeau Associates Inc., 2001) or in accordance with modified procedures approved in advance by the NYSDEC. The permittee must produce an annual report that presents the results of the above study. Each annual report must be submitted to the NYSDEC's Steam Electric Unit Leader within 12 months of the completion of each year's field operations.

26. The permittee must schedule and take annual outages of no fewer than 42 unit-days between 23 February and 23 August of each calendar year. A unit-day outage is defined as a period of 24 consecutive hours during which cooling water circulation pumps are off at either Indian Point Unit 2 or Unit 3. During these outages, cooling water circulation pumps may temporarily run for maintenance and testing activities, and service water pumps may be in operation. The permittee must give the NYSDEC's Steam Electric Unit Leader an annual report that provides a list of unit-day outages for each calendar year. Annual reports must be provided to the Steam Electric Unit before 31 January of the next calendar year.
27. The Ristroph modified traveling screens number 21 through 26 and 31 through 36 must continue to be operated on continuous wash when the corresponding cooling water circulation pump is running. The low pressure wash nozzles installed at each of these screens must be operated at 4 to 15 PSI so that the fish and invertebrates are removed from the traveling screens, washed into the existing fish return sluiceway, and returned to the Hudson River. The operation of the screens and fish return system must be inspected daily and the screen wash pressures recorded in the wash operator's log. The traveling screens and the fish return and handling system must minimize the mortality of fish to the maximum extent practicable.
28. The permittee must take the following steps to construct closed-cycle cooling:
 - a. Within six months of the effective date of this permit, the permittee must submit to the NYSDEC, Division of Environmental Permits, Chief Permit Administrator, 625 Broadway, Albany, New York 12233-1750: (i) its schedule for seeking and obtaining, during this permit term, all necessary approvals from the NRC, Federal Energy Regulatory Commission (FERC), and other governmental agencies to enable construction and operation of closed-cycle cooling at Indian Point; and (ii) a report on the progress to date of the Pre-Design Engineering Report required in special condition 28. b., below.
 - b. Within one year of the effective date of this permit, the permittee must submit to: NYSDEC, Division of Environmental Permits, Chief Permit Administrator, 625 Broadway, Albany, NY 12233-1750, a Pre-Design Engineering Report addressing regulatory and engineering issues, including but not limited to federal, state and local approvals, associated with installing closed-cycle cooling at Indian Point Units 1, 2, and 3. At a minimum, this report must address: (i) the potential relocation of a segment of the Algonquin Gas Company's (Algonquin) gas pipeline to construct closed-cycle cooling; (ii) the potential need for blasting to construct closed-cycle cooling and its potential impacts; (iii) particulate emissions from cooling towers; (iv) sequential construction outages at Units 2 and 3, as opposed to simultaneous construction outages; (v) the potential impacts to energy reliability and capacity associated with anticipated construction outages as well as the 42 day annual operating outages; and (vi) additional measures to reduce potential impacts to energy reliability or capacity.
 - c. Within one year of the effective date of this permit, the permittee may also submit a Pre-Design Engineering Report to the Chief Permit Administrator for an alternative technology(s) that will minimize adverse environmental impact to a level equivalent to that which can be achieved by closed-cycle cooling.
 - d. If the permittee submits a Pre-Design Engineering Report to the NYSDEC for an alternative technology(s), as provided for in special condition number 28. c., above, the NYSDEC will evaluate the capability of the proposed alternative to minimize adverse environmental impacts to a level equivalent to that which can be achieved by closed-cycle cooling. If the NYSDEC determines that

the proposed alternative may be substituted for closed-cycle cooling, it will notify the permittee and, if appropriate, will commence a proceeding to modify this permit accordingly.

- e. Within one year after submission of the Pre-Design Engineering Report, the permittee must submit design plans that address all construction issues for the conversion of the cooling water systems for Units 1, 2, and 3 to a closed-cycle system, or for an alternative technology(s) if approved by the NYSDEC pursuant to special condition number 28. c. and d., above. All plans must be stamped and signed by a Professional Engineer licensed by the State of New York. The design plans must be submitted to NYSDEC, Division of Environmental Permits, Chief Permit Administrator. NYSDEC will review to determine if the design plans are consistent with this permit and its requirements.
 - f. The permittee must inform the NYSDEC, Division of Environmental Permits, Chief, Energy and Management Bureau, in writing within 5 business days of any application submitted to the Nuclear Regulatory Commission (NRC) for modification or extension of the current operating licenses for Units 2 and 3, which expire on September 28, 2013 and December 12, 2015, respectively.
 - g. Within 30 days after receipt of the NRC's approval of the proposed design plans for closed-cycle cooling for Units 1, 2 and 3, the permittee must submit for approval to the NYSDEC, Division of Environmental Permits, Chief Permit Administrator, an update of its June 2003 construction schedule (Enercon Services, Inc. 2003) reflecting any design and schedule changes resulting from the NRC approval.
 - h. The NYSDEC reserves the authority to unilaterally modify this permit pursuant to 6 NYCRR Part 621, or take other appropriate action in the event that: (i) the NRC modifies or denies the permittee's design plans for closed-cycle cooling for Units 1, 2 and 3, (ii) any necessary proposal to a state or federal agency for relocating a segment of the Algonquin pipeline is modified or denied, or (iii) the permittee determines that it will not seek extension of its NRC licenses, and it so advises the NYSDEC, Division of Environmental Permits, Chief, Energy and Management Bureau, in writing,
29. Within six months after the effective date of this permit, and annually thereafter on January 1 of each year, the permittee must pay \$24 million into an escrow account that it creates at a financial institution approved by the NYSDEC. The escrow account must be entitled the Hudson River Estuary Restoration Fund (HRERF). All of the monies in the HRERF shall be held for the benefit of the HRERF and made available to the NYSDEC to administer for projects or programs within the Hudson River Estuary (including tributaries to the estuary below the federal dam at Troy) designed to restore, enhance or protect aquatic habitats, fish species, or the quality of Hudson River Estuary waters. These funds will not be used to support any of the permittee's obligations under this permit. Payments to the HRERF are non-refundable. Partial year payments shall be prorated at \$65,750 per day.

SCHEDULE OF COMPLIANCE:

- 30. a. The permittee shall comply with the Schedule of Compliance (following page), including the reporting requirements set forth below.
- 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 under terms of 6 NYCRR Part 750. 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 of 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. Unless otherwise specified in this permit or in writing by the Department, the permittee shall submit copies of any document required by the above schedule of compliance to NYSDEC Regional Water Engineer, Region 3, 200 White Plains Road, Tarrytown, New York 10591 and to the NYSDEC, Division of Water, Bureau of Water Permits, 625 Broadway, Albany, N.Y. 12233-3505.

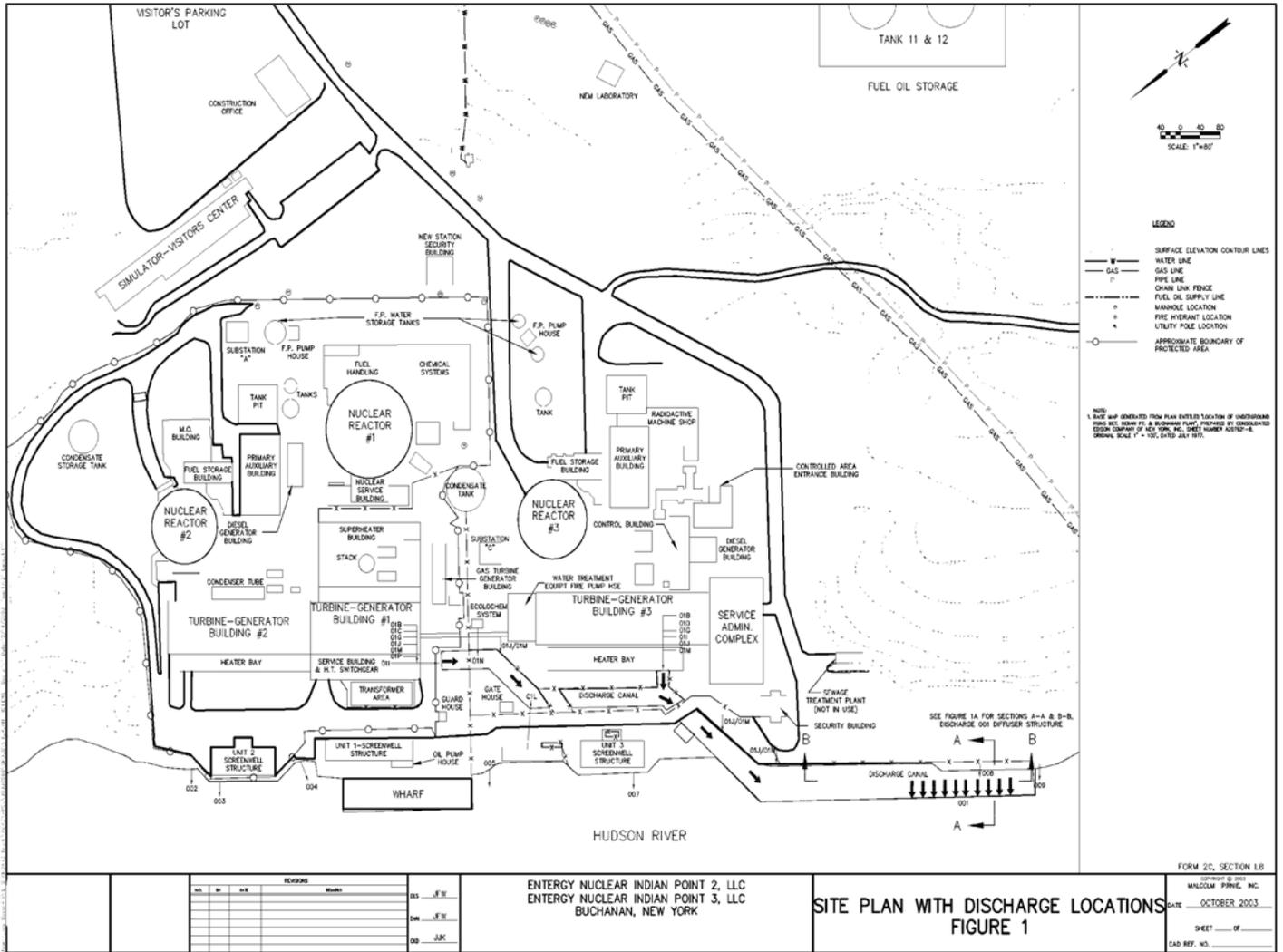
SCHEDULE OF COMPLIANCE

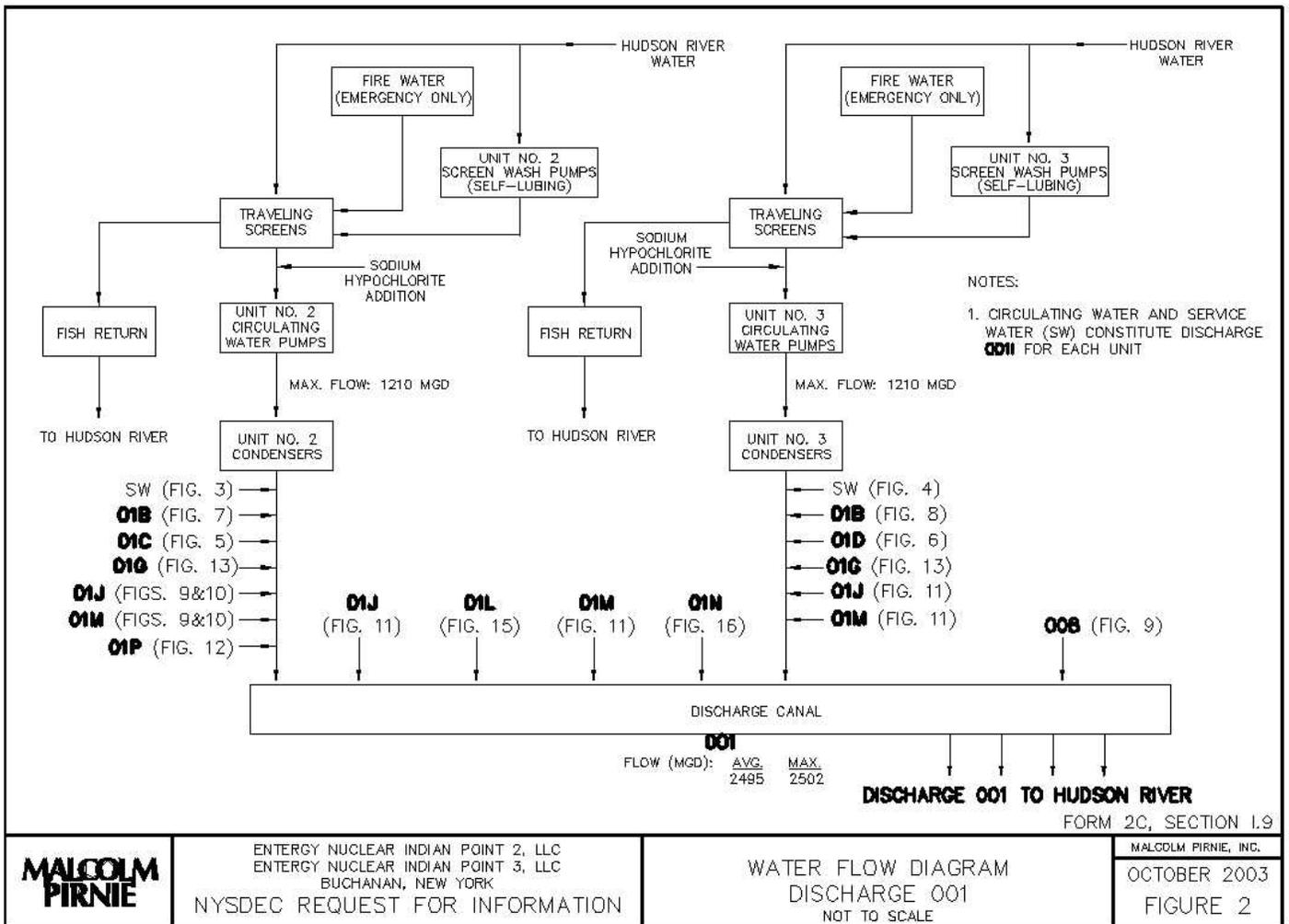
Action Code	Outfall Number(s)	Compliance Action	Due Date
	001	Submit approvable Protocol for Tri-Axial Thermal Study. (Special condition 7)	EDP + 6 months
	001	Submit a report on the progress to date of the Pre-Design Engineering Report (Special Condition 28. a)	EDP + 6 months
	001	Submit a schedule for obtaining all necessary approvals during the permit term from the Federal Energy Regulatory Commission (FERC), Nuclear Regulatory Commission (NRC), and other governmental agencies for the construction of closed cycle cooling at Indian Point during the next permit term. (Special condition 28. a)	EDP + 6 months
	001	Submit a Pre-Design Engineering Report addressing regulatory and engineering issues associated with installing closed cycle cooling at Units 1, 2, and 3 (Special condition 28.b)	EDP + 1 Year
	N/A	Permittee may submit Pre-Design Engineering Report for alternative technology(s) that achieves minimization of adverse environmental impact equivalent to closed-cycle cooling Special Condition 28.c).	EDP + 1 Year
	N/A	Annually, continue to ensure that biological monitoring projects [Longitudinal River Survey, Beach Seine Survey, Fall Shoals Trawls and Striped Bass/Atlantic Tomcod Mark Recapture Survey] are conducted according to the approved Standard Operation Procedures. Annual results from the Longitudinal River Survey, Beach Seine Survey, and Fall Shoals Trawls must be provided to the Department by 31 December of the next calendar year, while results from the Striped Bass/Atlantic Tomcod Mark Recapture Survey must be provided to the Department within 12 months of the completion of field operations. (Special condition 25)	EDP
	N/A	Schedule and take outages of no fewer than 42 unit-days between 23 February and 23 August in each calendar year over the permit term. Submit annual reports on outages prior to 31 January of each calendar year. (Special condition 26)	EDP
	N/A	Annually, the permittee must pay \$24 million into an Hudson River Estuary Restoration Fund. These funds will be used to restore or enhance the Hudson River Estuary (Special condition 29).	Annually
	001	Conduct Tri-Axial Thermal Study as Outlined in Special Condition 7.	EDP + 1.5 years
	001	Submit results of Tri-Axial Thermal Study as outlined in Special Condition 7.	EDP + 1.75 years
	N/A	Submit design plans that address all construction issues for the conversion of the cooling water systems for units 1, 2, and 3 to a closed cycle system or for construction of DEC-approved alternative technology(s) (Special condition 28.e.).	EDP+ 2 Years
	001	Month-by-month report of daily operating data on electrical output, water use, and intake and discharge temperature (Special Condition #19).	Annual
	N/A	Submit Semi-annual Effluent and Waste Disposal Reports prepared for NRC (Special Condition 20) .	Semi-Annual
	N/A	Submit revised construction schedule reflecting NRC approval process (Special Condition 28.g.)	NRC App + 30 Days
	N/A	Advise NYSDEC of extension of NRC licenses (Special Condition 28.f.)	October 3, 2008

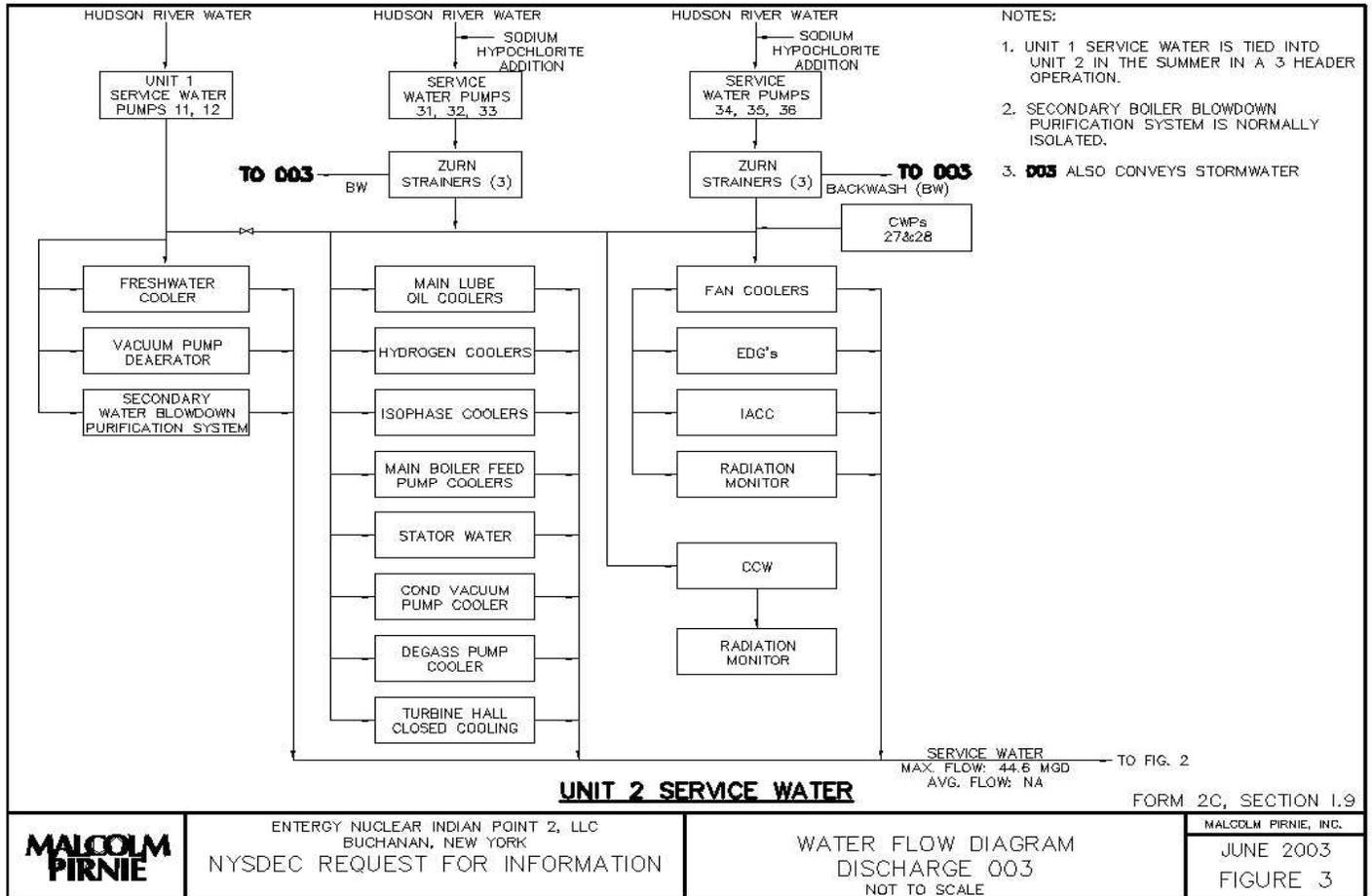
STANDARD CONDITIONS

MONITORING LOCATIONS

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







BEST MANAGEMENT PRACTICES

1. The permittee shall maintain and implement a Best Management Practices (BMP) plan to prevent, or minimize the potential for, release of significant amounts of toxic or hazardous pollutants to the waters of the State through plant site runoff; spillage and leaks; sludge or waste disposal; and storm water discharges including, but not limited to, drainage from raw material storage.
2. The permittee shall review all facility components or systems (including 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 toxic or hazardous pollutants are used, manufactured, stored or handled to evaluate the potential for the release of significant amounts of such 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. For hazardous pollutants, the list of reportable quantities as defined in 40 CFR, Part 117 may be used as a guide in determining significant amounts of releases. For toxic pollutants, 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 listed as toxic pollutants under Section 307(a)(1) of the Clean Water Act or as hazardous pollutants under Section 311 of the Act or that are required to be reported on the Industrial Chemical Survey.

3. Whenever the potential for a significant release of toxic or hazardous pollutants to State waters is determined to be present, the permittee shall identify BMPs that have been established to minimize such potential releases. Where BMPs are inadequate or absent, appropriate BMPs shall be established. In selecting appropriate BMPs, the permittee shall consider typical industry practices such as spill reporting procedures, risk identification and assessment, employee training, inspections and records, preventive maintenance, good housekeeping, materials compatibility and security. In addition, the permittee may consider structural measures (such as secondary containment and erosion/sediment control devices and practices) where appropriate.
4. Development of the BMP plan shall include sampling of waste stream segments for the purpose of toxic "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 storm water 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.
5. The BMP plan shall be documented in narrative form and shall include 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. USEPA guidance for development of storm water elements of the BMP is available in the September 1992 manual "Storm Water Management for Industrial Activities," USEPA Office of Water Publication EPA 832-R-92-006 (available from NTIS, (703)487-4650, order number PB 92235969). A copy of the BMP plan shall be maintained at the facility and shall be available to authorized Department representatives upon request. As a minimum, the plan shall include the following BMP's:

- | | | |
|-------------------------------------|----------------------------|--------------------------------|
| a. BMP Committee | e. Inspections and Records | i. Security |
| b. Reporting of BMP Incidents | f. Preventive Maintenance | j. Spill prevention & response |
| c. Risk Identification & Assessment | g. Good Housekeeping | k. Erosion & sediment control |
| d. Employee Training | h. Materials Compatibility | l. Management of runoff |

6. The BMP plan shall be reviewed annually and shall be modified whenever: (a) changes at the facility materially increase the potential for significant releases of toxic or hazardous pollutants, (b) actual releases indicate the plan is inadequate, or (c) a letter from the Regional Water Engineer highlights inadequacies in the plan.

7. **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 (6NYCRR 595-599) and (6NYCRR 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 quickly as practical and in all cases within 24 hours. 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. Alternatively, 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 Engineer 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. A representative sample shall be collected of the first discharge¹ 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 present².

(b) Every fourth discharge¹ 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 present².

(ii) *Transfer Area Secondary Containment Systems:*

The first discharge¹ 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 present².

E. Discharge Reporting - Any results of monitoring required above must be submitted to the Department by appending them to the corresponding discharge monitoring report (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. An example of a necessary discharge could be the addition of steam to prevent bulk storage containment area sump pumps from freezing during cold weather.

DISCHARGE NOTIFICATION REQUIREMENTS:

¹Discharge 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.

²If the stored substance is gasoline or aviation fuel then sampled 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 gasoline or aviation fuel then sampled for oil & grease and polynuclear aromatic hydrocarbons (EPA method 610). If the substance(s) are listed in Tables 6-8 of application form NY-2C 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., substituting BOD5 for methanol, substituting toxicity testing for demeton. 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. Form NY-2C is available on the NYSDEC web site. Contact the facility inspector for further guidance. In all cases flow and pH monitoring is required.

1. The permittee shall, except as set forth in (c) below, maintain the existing identification signs at all outfalls to surface waters, which have not been waived by the Department in accordance with 17-0815-a. 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:

<p>N.Y.S. PERMITTED DISCHARGE POINT</p> <p>SPDES PERMIT No.: NY _____</p> <p>OUTFALL No. : ____</p> <p>For information about this permitted discharge contact:</p> <p>Permittee Name: _____</p> <p>Permittee Contact: _____</p> <p>Permittee Phone: () - ### - #####</p> <p>OR:</p> <p>NYSDEC Division of Water Regional Office Address :</p> <p>NYSDEC Division of Water Regional Phone: () - ### - #####</p>

2. For each discharge required to have a sign in accordance with a), above, the permittee shall provide for public review at a repository accessible to the public, 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.
3. 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.

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS:

1. The permittee shall also refer to 6 NYCRR Part 750 (<http://www.dec.state.ny.us/website/regs/750.htm>) for additional information concerning monitoring and reporting requirements and conditions.
2. The monitoring information required by this permit shall be summarized, signed and retained for a period of three 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 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 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 Engineer, Region 3
200 White Plains Road
Tarrytown, New York 10591

Phone: 914-332-1835

3. Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in the attached General Conditions (Part II).
4. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
5. 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.
6. Calculation for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
7. 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.
8. 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.