NPDES PERMIT

issued to

Dominion Nuclear Connecticut, Inc.
Millstone Power Station (MPS)
Rope Ferry Road
Waterford, CT 06385-0128

Location Address:

Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Facility ID: 152-003

Permit ID: CT0003263

Receiving Stream: Long Island Sound Watershed

Permit Expires: 08/31/2015

SECTION 1: GENERAL PROVISIONS

(A) This permit is reissued in accordance with section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and sections 316(a), 316(b) and 402(b) of the Clean Water Act, as amended, 33 USC 1326(a), 1326(b) and 1251, respectively, and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer an N.P.D.E.S. permit program.

(B) The discharge is subject to the effluent guidelines and standards for the steam electric power generating point source category promulgated on November 19, 1982 pursuant to Section 301 of the Federal Clean Water Act, as amended. Specifically, this discharge is subject to 40 CFR Parts 122, 123, 124, 125 of the National Pollutant Discharge Elimination System and Part 423 of the effluent guidelines and standards.

(C) Dominion Nuclear Connecticut, Inc., ("Permittee"), shall comply with all of the terms and conditions of this permit including the following sections of the RCSA that have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. The Permittee's attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

Section 22a-430-3 General Conditions

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(i) Facility Modifications; Notification
(j) Monitoring, Records and Reporting Requirements
(k) Bypass

(l) Conditions Applicable to POTWs
(m) Effluent Limitation Violations (Upsets)
(n) Enforcement
(o) Resource Conservation
(p) Spill Prevention and Control
(q) Instrumentation, Alarms, Flow Recorders
(r) Equalization

Section 22a-430-4 Procedures and Criteria

(a) Duty to Apply
(b) Duty to Reapply
(c) Application Requirements
(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(i) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications. Approval.
(l) Establishing Effluent Limitations and Conditions
(m) Case by Case Determinations
(n) Permit issuance or renewal
(o) Permit Transfer
(p) Permit revocation, denial or modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements for Metals and Cyanide
(t) Discharges to POTWs - Prohibitions

(D) Violations of any of the terms, conditions, or limitations contained in this permit may subject the Permittee to enforcement action including, but not limited to, seeking criminal or civil penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA or federal law.

(E) Any false statement by the Permittee in any information submitted pursuant to this permit or in the Permittee's application may be punishable as a criminal offense under section 22a-438 or 22a-131a of the CGS or in accordance with section 22a-6, pursuant to section 53a-157b of the CGS.

(F) The authorization to discharge under this permit may not be transferred without prior written approval of the Commissioner of Environmental Protection ("the Commissioner"). To request such approval, the Permittee and proposed transferee shall register such proposed transfer with the Commissioner, at least 30 days prior to the transferee becoming legally responsible for creating or maintaining any discharge which is the subject of the permit transfer. Failure, by the transferee, to obtain the Commissioner's approval prior to commencing such discharge(s) may subject the transferee to enforcement action for discharging without a permit pursuant to applicable sections of the CGS and RCSA.

(G) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the Permittee pursuant to this permit will result in compliance or prevent or abate pollution.

(H) Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.

(I) The Permittee shall pay an annual fee for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.

(J) This permitted discharge is consistent with the applicable goals and policies of the Connecticut Coastal Management Act (section 22a-92 of the Connecticut General Statutes).

SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in section 22a-423 of the CGS and section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "No Observable Acute Effect Level (NOAEL)" which is redefined below.

(B) In addition to the above, the following definitions shall apply to this permit:

"-----" in the limits column on the monitoring table means a limit is not specified but a value must be reported on the DMR.

"All Life Stages" means eggs, larvae, juveniles, and adults.

"Annual" in the context of a sampling frequency, means sampling is required in the month of January. If there is no discharge during the month of January the Permittee shall report "No Discharge" in the Discharge Monitoring Report ("DMR") and sample during the subsequent month when discharge becomes available.

"Average Monthly Limit"; when expressed as a concentration (e.g. mg/l), shall mean the maximum allowable "Average Monthly Concentration" as defined in section 22a-430-3(a) of the RCSA; otherwise, it shall mean "Average Monthly Discharge Limitation" as defined in section 22a-430-3(a) of the RCSA.

"Alternate Sample Location" means a representative sample of the same system wastewater. The discharge can be sampled from the alternate location based upon the following factors, including but not limited to: (a) operational status of a unit (e.g., startup, shutdown, operation); (b) maintenance and/or repair on systems that would preclude the use of the primary sample location; or (c) administrative controls (Millstone Power Station or NRC). Reporting of alternate sample location use will be included in the monthly DMR.

"Batch" means the contents of a tank or sump that has been sampled and has no inputs prior to being discharged unless otherwise described in process description.

"Calculation Baseline" means an estimate of impingement mortality and entrainment that would occur at your site assuming that: the cooling water system has been designed as a once-through system; the opening of the cooling water intake structure is located at, and the face of the standard 3/8-inch mesh traveling screen is oriented parallel to, the shoreline near the surface of the source waterbody; and the baseline practices, procedures, and structural configuration are those that your facility would maintain in the absence of any structural or operational controls, including flow or velocity reductions, implemented in whole or in part for the purposes of reducing impingement mortality and entrainment. You may also choose to use the current level of impingement mortality and entrainment as the calculation baseline. The calculation baseline may be estimated using:

historical impingement mortality and entrainment data you're your facility or from another facility with comparable design, operational, and environmental conditions; current biological data collected in the waterbody in the vicinity of your facility cooling water intake structure; or current impingement mortality and entrainment data collected at your facility.

"Clean Water Washes or Drains" shall mean the draining or washing of equipment and the washing of component surfaces (internal or external), building surfaces, and yard surfaces, consisting of or containing seawater, demineralized water (not containing corrosion inhibitors) or domestic water without the use of any other cleaning chemicals or the presence of any system or subsystem chemical additives except those otherwise authorized for the specific discharge serial number. The equipment or surface to be washed or drained shall be visibly free of liquid chemicals and/or petroleum products.

"Closed-cycle Recirculation System" shall mean a system designed, using minimized makeup and blow-down flows, to withdraw water from a natural or other water source to support contact and/or non-contact cooling uses within the facility. The water is usually sent to a cooling canal or channel, lake, pond or tower to allow waste heat to be dissipated to the atmosphere and then is returned to the system. New source water (make-up water) is added to the system to replenish losses that have occurred due to blow-down, drift and evaporation.

"Critical Test Concentration (CTC)" means the specified effluent dilution at which the Permittee is to conduct a single-concentration Aquatic Toxicity test.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or, the arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity" means the quantity of waste discharged during an operating day.

"Diel" means daily and refers to variation in organism abundance and density over a 24-hour period due to the influence of water movement, physical or chemical changes, and changes in light intensity.

"Domestic Water" shall mean the water, and any constituents that may be in it, as supplied to the MPS from the public water supply system.

"Entrainment" means the incorporation of aquatic organisms, including all life stages of fish and shellfish, with intake water flow entering and passing through a cooling water intake structure and into a cooling water system.

"Fire Suppression System Discharges" shall mean the draining, flushing, and/or testing of fire suppression system components utilizing domestic water and/or seawater to assess the operability and integrity of these systems.

"Floor Drains Wastewaters" shall include but not be limited to, the draining of water to or from floor drains, plant component/systems, incidental leakage from system components such as packing leak from a pump, incidental groundwater in-leakage (e.g., cracks in building foundation), hydrolazing, and washing with water (domestic water, demineralized water, and seawater). This definition does not include any chemical spills.

"Hydrolazing" shall mean the high pressure surface cleaning of system components utilizing domestic, demineralized, or sea water to clean system components, including the removal of

attached biological growth.

"Incidental System Leakage" shall mean once through and/or closed loop cooling water minor leakage from piping, pipe components, valves, flanges, gland seal water, pressure relief valves during start up, shut down, plant operation and maintenance activities. Incidental System Leakage shall also include minor leakage of fire water, Millstone pure water treatment system side streams, demineralized water, condensates, domestic water systems, reactor water, primary and secondary system water as a result of minor leakage from various conveyance systems such as piping, pumps and valves. This definition does not include any chemical spills.

“Instantaneous Limit” means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"Instantaneous Sampling" means a grab sample collected manually, or with automatic equipment, or in-line analysis with automated instrumentation, including but not limited to flow, temperature and pH.

"In stream Waste Concentration (IWC)" means the concentration of a discharge in the receiving water after mixing has occurred in the allocated zone of influence.

"Impingement" means the entrapment of aquatic organisms, including all life stages of fish and shellfish, on the intake structure or against a screening device during periods of intake water withdrawal.

"Maintenance wastewaters" shall mean those wastewaters described in this definition and generated as a result of repair, replacement, modification, testing, calibration, cleaning, emergency shutdown, draining, filling and/or decommissioning activities. This wastewater may include once through and/or closed loop cooling water, in addition to minor leakage of fire water, Millstone pure water treatment system side streams, demineralized water, condensates, domestic water systems, reactor water, primary and secondary system water as a result of minor leakage from maintenance on various conveyance systems such as piping, pumps and valves.

"Maximum Daily Limit", means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l); otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means “Maximum Daily Flow” as defined in section 22a-430-3(a) of the RCSA.

"Moribund" means dying; close to death.

"mg/l" means milligrams per liter.

"mgpd" means million gallons per day.

“NA” as a Monitoring Table abbreviation means “not applicable”.

“NR” as a Monitoring Table abbreviation means “not required”.

"No Observable Acute Effect Level (NOAEL)" means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test conducted pursuant to section 22a-430-3(j)(7)(A)(i) RCSA demonstrating greater than 50% survival of test organisms in

100% (undiluted) effluent and 90% or greater survival of test organisms at the CTC.

"^{o}F" means degrees Fahrenheit.

"Quarterly", in the context of a sampling frequency, means sampling is required in the months of January, April, July and October. If there is no discharge during a sampling month the Permittee shall report no discharge in the Discharge Monitoring Report (DMR) and sample during the subsequent month when discharge becomes available.

“Range During Sampling” (“RDS”), as a sample type on any parameter, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of; 1) a Composite Sample, or, 2) a Grab Sample Average. Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

“Range During Month” (“RDM”), as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"Semi-Annual" in the context of a sampling frequency, means sampling is required in the months of January and July. If there is no discharge during a sampling month the Permittee shall report "No Discharge" in the Discharge Monitoring Report (DMR) and sample during the subsequent month when discharge becomes available.

"Sludge Lancing" for the purposes of this permit shall mean the process for cleaning the internal portions of steam generators and the associated components. The process utilizes a series of flushes/drains and high pressure washing utilizing demineralized water. Wastewaters are processed through a filtration unit prior to discharge.

“Total Residual Chlorine” means the sum of total oxidants as measured by the methods for total residual chlorine approved pursuant to the Code of Federal Regulations, Part 136 of Title 40 (40 CFR 136), or as set forth pursuant to Sections 6 (A)(9) and (10) of this permit.

"ug/l" means micrograms per liter.

"Wet lay-up" means a condition where the Steam Generators are filled with water and may, or may not, contain elevated levels of hydrazine, ammonium hydroxide and/or ethanolamine depending on the need to scavenge oxygen and control pH.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner has issued a final determination and found that continuance of the existing systems to treat the discharges would protect the waters of the state and continuance of the existing discharges would not cause pollution of the waters of the state. With the issuance of this final determination by the Commissioner emergency authorization Number EA0100176 has expired, and is no longer of any force or effect. The Commissioner’s decision is based on Application No.199701876 for permit reissuance received on June 13, 1997, transferred on March 30, 2001, and including all addenda, correspondence and submittals by MPS and the administrative record established in the processing of that application. Accordingly, the Commissioner hereby authorizes the Permittee to discharge wastewaters in accordance with the provisions of this permit. This permit also includes determinations regarding section 316(a) of the federal Water Pollution Control Act 33 U.S.C. § 1326(a), and compliance with this permit is sufficient to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the

receiving waters. This permit also contains a determination under section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b) and Conn. Gen. Stat. § 22a-430(a). This 316(b) determination is in Section 10(K) of this permit.

(B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or the Commissioner's authorized agent subsequent to the issuance of this permit for the discharges and/or activities authorized by, or associated with, this permit.

(C) The Commissioner reserves the right to make appropriate revisions to the permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL EFFLUENT LIMITATIONS AND REQUIREMENTS

(A) No discharge by the Permittee's shall contain, or cause in the receiving stream, a visible oil sheen or floating solids, or cause visible discoloration or foaming in the receiving stream.

(B) No discharge by the Permittee's shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in this permit.

(C) All samples taken by the Permittee to comply with this permit shall be comprised of only those wastewaters, or a portion of those wastewaters, described in the "Wastewater Description" section of the tables listed in section 5. Samples for each discharge assigned a serial number shall be collected at the "Monitoring Location Description" for that discharge serial number and shall be collected prior to combination with receiving waters or with wastewaters of any other discharge assigned a serial number. The requirements of this section shall apply, even for wastewaters that can be directed to an alternative pathway pursuant to section 4(H) of this permit. All samples collected by the Permittee shall be representative of the discharge during standard operating conditions.

(D) In cases where limits and sample type are specified but sampling is not required by the Permittee in this permit, the limits specified shall apply to all samples which may be collected and analyzed by the Department of Environmental Protection personnel, the Permittee, or other parties.

(E) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedance of permit limits will be considered non-compliance.

(F) The monitoring requirements begin on the date of issuance of this permit if the issuance date is on or before the 12th day of a month. For permits issued on or after the 13th day of a month, monitoring requirements begin the 1st day of the following month.

(G) Monitoring and reporting of radioactive liquid releases are performed in accordance with the applicable 10 CFR 50.36A and 10 CFR 20.1301 Appendix B values Table 2 effluent concentrations "Standards for Protection Against Radiation" and 40 CFR 190. All annual monitoring reports submitted to the Federal Nuclear Regulatory Commission (NRC) shall be sent to Connecticut Department of Environmental Protection, Bureau of Air Management, Radiation Control Division.

(H) Whenever the Permittee redirects a discharge to an alternative pathway(s) that is specified in a table listed

in section 5 of this permit, the Permittee shall comply with all requirements, including but not limited to, effluent and flow limits, monitoring, sampling, record-keeping, applicable to both the location in which the discharge originated and the alternative pathway(s). Before redirecting a discharge to an alternative pathway(s), the Permittee shall collect a sample or take any other action that may be necessary to determine compliance with all requirements applicable to the location in which the discharge originated. The Permittee shall also comply with section 22a-430-3(o)(2) of the RCSA when discharging at an alternative location. The Permittee may redirect a discharge to an "alternate pathway" specified in the Tables in Section 5, based upon the following factors:

(a) operational status of a Unit (start-up, shut down, operational);

(b) a necessity to route process water, not normally radiologically contaminated, to radiological treatment and subsequent discharge when radiological contamination is detected and such action is mandated by Dominion Nuclear Connecticut, Inc. (DNC) administrative controls consistent with NRC requirements;

(c) maintenance and/or repair on systems that would preclude use of the primary pathway; and

(d) discovery of constituent(s) in a discharge that would require removal by another pathway's treatment system in order to preclude a potential permit violation or would otherwise damage plant systems.

(I) The Permittee is prohibited from discharging polychlorinated biphenyl compounds.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The Permittee shall ensure that its discharges shall not exceed and shall otherwise conform to the specific terms and conditions listed below. The discharges are restricted by, and shall be monitored in accordance with, the tables below.

(B) The Permittee shall comply with the "Remarks" and "Footnotes" noted in the tables that follow and such footnotes and remarks are enforceable like any other term or condition of this permit. The Permittee shall comply with a remark in such table even when the direction to “See a particular remark” does not appear in the table.

(C) References in the "Remarks" or "Footnotes" section of the tables listed in section 5, to maintain certain records on-site, shall mean compliance with the record retention requirements of RCSA Section 22a-430-3(j)(9)(B).

Table A

Discharge Serial Number: 001-1 | **Monitoring Location:** 1

Wastewater Description: Discharge Points at Quarry Cut (East & West) from Units 1, 2 and 3 including discharges DSN 001A, DSN 001B, DSN 001C, DSN 005 and DSN 009; fire suppression system discharges and wastewater from de-silting operations from Units 2 and 3 intake structure (Discharge Code 101060z)

Monitoring Location Description: Quarry Cut Outlets

Discharge is to: Long Island Sound via Quarry Cut

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Aquatic Toxicity (Invertebrate) [4]	%	NA	NOAEL>100%	Quarterly	Daily Composite	NOAEL>100%	NA	Grab	
Aquatic Toxicity (Vertebrate) [4]	%	NA	NOAEL>100%	Quarterly	Daily Composite	NOAEL>100%	NA	Grab	
Flow, Average and Maximum [1,6]	gpd	----	2,255,625,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	2,255,625,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
pH, continuous (see remark 1)	S.U.	NA	NA	NR	NA	6.0 to 9.0	Hourly	RDM	
Free Available Chlorine [5]	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Temperature (see remark 2)	^{o}F	NA	NA	NR	NA	105.0	Hourly	Instantaneous	
Temperature, intake/outlet differential (see remark 12)	^{o}F	NA	NA	NR	NA	32.0	Hourly	Instantaneous	
Total Residual Chlorine [5]	mg/l	NA	NA	NR	NA	0.1	Weekly	Grab	*
Turbidity (see remark 9)	NTU	NA	NA	NR	NA	-----	Daily	Grab	
Turbidity differential (see remark 9)	NTU	NA	NA	NR	NA	5.0	Daily	Grab	

Table A Footnotes and Remarks:
Footnotes:

[1] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Monthly Flow and the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

[4] See Section 7 for additional aquatic toxicity requirements and Tables II and JJ.

[5] Chlorine monitoring shall be conducted during time periods when chlorine is being added at one of the condensers for biofouling control in accordance with Table A, remark (6).

[6] See Section 10(B) for alternative flow limitations during winter flounder entrainment season.

Remarks:

(1) The pH of the discharge shall not be less than 6.0 nor greater than 9.0 Standard Units at any time, shall be monitored on a continuous, hourly basis, and reported on a monthly basis. The pH range for each month is defined as the highest and lowest single pH reading during all operating days of the month including periods when sampling is not performed. The Permittee shall monitor pH and temperature manually every four hours whenever the automated equipment malfunctions or is out of service for maintenance.

(2) The maximum temperature of the discharge shall be 105^{o}F. The Permittee shall report the maximum temperature of the discharge and the maximum temperature increase for each month.

(3) The temperature of any discharge shall not increase the temperature of the receiving waters above 83^{o}F, or, in any case, raise the temperature of the receiving waters by more than 4 ^{o}F. For purposes of these conditions, cognizance will be given to reasonable time and distance to allow mixing of the effluent and receiving waters, but the boundary of the mixing zone for the: (i) increase in temperature of the receiving waters above 83^{o}F; and (ii) the 4 ^{o}F rise in temperature shall not exceed a radius of 8,000 feet from the discharge outlet at the quarry cuts.

(4) The thermal plume allowed within the permissible mixing zone as defined by these conditions shall not block zones of fish passage.

(5) The discharge and operation of all facilities shall not alter significantly the color, turbidity, taste, odor or levels of coliform bacteria from ambient levels in the receiving waters; nor shall the level of dissolved oxygen in the receiving waters fall below 6.0 mg/l as a result of such discharge.

(6) Chlorine shall not be discharged in the condenser cooling water of more than one unit at any one time or for more than two hours per unit in any one day.

(7) The discharge shall contain no other chemical constituents in concentrations which are harmful to human, animal or aquatic life, or which make the receiving waters unsafe or unsuitable for fish or shellfish or their propagation, impair the palatability of same, or impair the waters for other uses.

(8) The Permittee shall maintain onsite the following data:

Daily range of pH
Daily range of flow
Daily maximum temperature (^{o}F)
Daily minimum temperature (^{o}F)
Daily average temperature (^{o}F)
Daily maximum temperature increase (^{o}F)
Daily minimum temperature increase (^{o}F)
Daily average temperature increase (^{o}F)

(9) Turbidity monitoring is only required on days when desilting operations wastewater from either Unit 2 or Unit 3 is discharged to the Quarry. The background sample for turbidity to determine compliance with the effluent limitation shall be a grab sample from the vicinity of the Millstone Harbor or the Environmental Laboratory Boat Dock.

(10) The report shall include a detailed explanation of any violations of the limitations specified above.

(11) The Permittee shall maintain all free available chlorine and total residual chlorine analytical data on-site and shall report on the DMR the lowest and highest values for the month.

(12) The differential temperature increase at the Quarry Cut above the intake water temperature under unusual conditions may be increased to 44 ^{o}F for a period not exceeding 24 hours. In the event the temperature differential exceeds 32 ^{o}F, the Department of Environmental Protection shall be notified at once or by the next working day and a written report filed within 5 working days. During the reduced intake flow period specified in Section 10(C) of this permit, the differential temperature shall not exceed 41^{o}F.

TABLE B	Monitoring Location: 1

Discharge Serial Number: 001A

Wastewater Description: Unit 1 Miscellaneous Decommissioning Wastewaters from Sumps: batch discharge comprised of wastewaters from various Unit 1 sumps including groundwater, roof drains, cooling water (either demineralized plant makeup water or domestic water), system leakage, component makeup water, domestic water, fire suppression system water, sample collection wastewater, wastewater from maintenance activities, incidental leakage during operation and maintenance activities, system drain downs, and the Unit 1 evaporator system storage tanks (including wastewater from DSNs 001B-2, 001B-3, 001C-2, 001C-3 and stack sump water that may be directed to this storage tank as an alternate pathway in accordance with Section 4 (H) above). Unit 1 decommissioning and safe store system waters may be directed to this discharge from the Unit 1 spent fuel pool, Unit 1 spent fuel pool cooling system, and from draining and flushing from decontamination of MP1 plant components. (Discharge Code: 153000N)

Monitoring Location Description: Immediately following treatment; sample tap off the effluent sample pump. (Discharge Code 117000n)

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Flow, Total	gpd	NA	40,000	Monthly	Daily Flow	NA	NR	NA	
Flow, Maximum [1]	gpd	-----	40,000	Daily	Daily Flow	NA	NR	NA	
Oil & Grease, Total	mg/l	NA	NA	NR	NA	15.0	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	6.0 to 9.0	Weekly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	
Chlorodifluoromethane [4]	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	
Dichlorodifluoromethane [5]	mg/l	NA	NA	NR	NA	------	Weekly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Boron	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Lead	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Nickel	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Total Suspended Solids	mg/l	NA	NA	NR	NA	30.0	Quarterly	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	1.0	Weekly	Grab	*

Table B Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

[4] Sampling analysis shall consist of the total measurement of chlorodifluoromethane concentration.

[5] Sampling analysis shall consist of the total measurement of dichlorodifluoromethane concentration.

TABLE C	**Monitoring Location:** 1

Discharge Serial Number: 001B									
Wastewater Description: Unit No. 2 Discharge, including DSNs 001B-1 through 001B-11: Unit 2 condenser non-contact cooling water and service water, intake pump seal and lubricating water, miscellaneous cooling water system leakage and drainage, hydrolazing, drainage of plant systems and components during start-up, shutdown, plant operation, incidental system leakage and maintenance wastewater, intake bay maintenance and dewatering activities, service water strainer backwash, intake desilting wastewater (Discharge Code 101060Z)									
Monitoring Location Description: Mouth of discharge tunnel 001B, which feeds into the quarry									
Discharge is to: Long Island Sound via Quarry Cut									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	-----	844,652,000	Continuous	Daily Flow	NA	NR	NA	
Flow, Total	gpd	NA	844,652,000	Weekly	Daily Flow	NA	NR	NA	
pH, Continuous (see remark 1)	S.U.	NA	NA	NR	NA	6.0 to 9.0	Hourly	RDM	
Chlorine, Free Available	mg/l	NA	NA	NR	NA	0.25	Weekly	Grab	*
Hydrazine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	*
Molybdenum	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Temperature, intake and outlet differential (see remarks 2 and 6)	^{o}F	NA	NA	NR	NA	32.0	Hourly	Instantaneous	

Table C Footnotes and Remarks:

Footnotes:

[1] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Monthly Flow and the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) The Permittee shall report the highest and lowest single pH and temperature reading of the month including periods when sampling is not performed. The Permittee shall monitor pH and temperature manually every four hours whenever the automated equipment malfunctions or is out of service for maintenance.

(2) The differential temperature increase at the Unit 2 discharge above the intake water temperature shall not exceed 32^{o}F during full condenser cooling water flow operations and shall not exceed 44^{o}F for more than 24 hours due to pump failure or maintenance. During reduced flow due to extended (more than 24 hours) pump outage or maintenance, the delta T shall not exceed 38^{o}F with a corresponding limit of 44^{o}F for 24 hours due to failure or maintenance of an additional pump. During the reduced intake flow period specified in Section 10(C) of this permit, the delta T shall not exceed 46^{o}F during periods of reduced flow with a corresponding limit of 48^{o}F for 24 hours due to pump failure or maintenance.

(3) Free available chlorine shall not be discharged in the condenser cooling water for more than two hours in any one day. Free available chlorine shall not be discharged in the condenser cooling water of more than one unit at any one time. Whenever the Unit 2 circulating water system is operating, weekly monitoring of free available chlorine shall be performed when chlorination of condenser cooling water occurs.

(4) The Permittee shall maintain all free available chlorine analytical data onsite and shall report on the DMR the lowest and highest values for each month.

(5) The Permittee shall maintain onsite the following data:

Daily range of pH
Daily range of flow
Daily maximum temperature (^{o}F)
Daily minimum temperature (^{o}F)
Daily average temperature (^{o}F)
Daily maximum temperature increase (^{o}F)
Daily minimum temperature increase (^{o}F)
Daily average temperature increase (^{o}F)

(6) Routine operating procedures include the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels and a condenser backflush process for the removal of debris during and/or after storm events or following thermal backwashes. The true temperature difference between the intake water and discharge water into the Quarry shall be allowed to exceed the permit limit for very brief periods (i.e. a maximum of four hours per intake bay per backwash) during these backwash/backflush procedures.

TABLE D									**Monitoring Location:** 1
Discharge Serial Number: 001B-1									
Wastewater Description: Unit No. 2 Steam Generator blowdown tanks and blowdown generated during open cycle Steam Generator blowdown during startup, standby, hot standby, operation and shutdown. In accordance with Section 4 (H), DSN 001B-1(a) may be redirected to this alternative location during maintenance activities. (Discharge Code 101060N)									
Monitoring Location Description: Turbine Building sample tap for either Steam Generator, Auxiliary Building Primary Sample Room Valves, or Recirculation/Pump Down Skid Sample Valve.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	-----	1,440,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	1,440,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Ammonia as Nitrogen	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Ammonia as Nitrogen	kg/day	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrate	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrite	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Kjeldahl Nitrogen (TKN)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Oil and Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table D Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) Grab sample shall be a flow proportional composite of grab samples of all Unit 2 Steam Generators in use at the time of sampling.

TABLE E						Monitoring Location: 1			
Discharge Serial Number: 001B-1(a)									
Wastewater Description: Unit No. 2 Steam Generator Secondary Side Wet Layup Discharge: Steam Generators system drainage for maintenance, chemical control and startup, hot standby, and hot shutdown blowdowns and/or quench tank and sludge lancing (Discharge Code 117000N)									
Monitoring Location Description: Turbine Building sample tap for each Steam Generator, Auxiliary Building primary sample room valves, or recirculation/pumpdown skids sampling valves. For Sludge lancing: After the filtration unit									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Hydrazine	mg/l	NA	NA	NR	NA	125.0	Weekly	Grab	*
Ethanolamine (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Flow, Maximum [1] (see remark 3)	gpd	NA	280,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Copper, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Iron, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Lead, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Nickel, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Oil & Grease, Total (see remark 1)	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Total Suspended Solids (see remark 1)	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Zinc, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table E Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

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Remarks:

(1) The Permittee shall sample sludge lancing wastewater after filtration at least once per year for the following pollutants: copper, iron, lead, nickel, oil & grease, total suspended solids and zinc.

(2) Sampling and analysis for ethanolamine is only required when ethanolamine is being added to the Steam Generator in wet lay up.

(3) Only one unit may discharge secondary side wet lay up drainage at any one time.

TABLE F	Monitoring Location: 1

Discharge Serial Number: 001B-2

Wastewater Description: Unit No. 2 Aerated Waste Monitor Tank Discharge: wastewaters from the Reactor Building, Radiological Controlled Areas, Turbine Building sumps, Auxiliary Building sumps, Chemistry Laboratory drains and coolant waste wastewaters (from DSN 001B-3) directed to DSN 001B-2 during startup, shutdown, operation, incidental system leakage and maintenance, Unit 1 and Unit 2 radiologically contaminated wastewaters. Unit 3 Auxiliary Boiler system leakage and drains from maintenance activities, Steam Generator blowdown, roof drains, groundwater, domestic water, and plant makeup water (pure water). Also, an alternative pathway for Steam Generator blowdown, sludge lancing and wet lay-up via a containment sump that is normally directed to DSN 001B-1 and 001B-1(a). RBCCW that is normally directed to DSN 001B-9 may be directed to this discharge via the RBCCW sump during maintenance activities, if radiologically contaminated. In accordance with Section 4(H), wastewaters including service water drains may be redirected to this location from DSNs 001A, 001B-1, 001B-1(a), 001B-2(a), 001B-2(b), 001B-3, 001B-5, 001B-9, 001B-11, stack sump water and Unit 2 Turbine Building sumps. (Discharge Code 117000N)

Monitoring Location Description: Sample valve in auxiliary building primary sample room or sample valves on recycle/mixing piping leg of discharge pump for aerated waste monitoring tank.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	15,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	

Table F Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during any closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE G									**Monitoring Location:** 1
Discharge Serial Number: 001B-2(a)									
Wastewater Description: Unit No. 2 Steam Generator Chemical Cleaning and Chemical Decontamination Wastewaters Discharge (Discharge Code 101070n)									
Monitoring Location Description: DSN 001B-2 or DSN 001B-3 discharge monitoring location (See Section 10 Paragraph B of this permit)									
Maximum Frequency of Discharge: Approximately 30 days during an outage									
Expected Frequency: One activity per year									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test** [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Boron, Total	mg/l	-----	-----	Weekly	Daily Composite	NA	NR	NA	*
Copper, Total	mg/l	1.0	1.0	Weekly	Daily Composite	1.5	NR	NA	*
Iron, Total	mg/l	1.0	1.0	Weekly	Daily Composite	1.5	NR	NA	
Cadmium, Total	mg/l	0.1	0.5	Weekly	Daily Composite	0.75	NR	NA	
Chromium, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	
Flow, Maximum [1]	gpd	NA	60,000	Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	-----	-----	Weekly	Daily Composite	NA	NR	NA	*
Lead, Total	mg/l	0.1	0.5	Weekly	Daily Composite	0.75	NR	NA	*
Molybdenum (see remark 1)	mg/l	-----	-----	Weekly	Daily Composite	NA	NR	NA	
Nickel, Total	mg/l	1.0	2.0	Weekly	Daily Composite	NA	NR	NA	*
Zinc, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	*
pH	S.U.	NA	NA	NR	NA	6 - 9	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	Weekly	Daily Composite	30.0	NR	NA	
Oil & Grease, Total	mg/l	10.0	15.0	Weekly	Grab Sample Average	15.0	NR	NA	

Table G Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed weekly during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE H	Monitoring Location: 1

Discharge Serial Number: 001B-3

Wastewater Description: Unit No. 2 Coolant Waste Monitor Tank Discharge: wastewater from the Auxiliary Building, Reactor Building and Reactor Coolant sumps, Aerated Waste Monitoring Tanks, aerated waste collected in the Coolant Waste Monitoring Tanks, and other radiological controlled areas during plant startup, operation, shutdown, incidental system leakage and maintenance, Unit 1 and Unit 2 radiologically contaminated wastewaters. Unit 3 Auxiliary Boiler system leakage and drains from maintenance activities, Steam Generator blowdown, groundwater in-leakage and roof drains and domestic water. In accordance with Section 4 (H), wastewaters may be redirected to this location from DSN 001B-1 (Steam Generator blowdown, sludge lancing, and wet lay-up), DSN 001B-1(a), the aerated waste drain tank (and all its inputs), DSNs 001A, 001B-2, 001B-2(a), 001B-2(b), 001B-9, 001B-11, stack sump water and Unit 2 Turbine Building sumps. (Discharge Code 117000N)

Monitoring Location Description: Sample valve in auxiliary building primary sample room on discharge piping of coolant waste tank(s) discharge pump

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	90,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	

Table H Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE I									**Monitoring Location:** 1
Discharge Serial Number: 001B-5									
Wastewater Description: Unit No. 2 Auxiliary Heat Exchanger: service water discharge, including pump lubrication water, pump seal water, hydrolazing wastewaters, circulating water and service water system drainage during startup, shutdown, plant operation, incidental system leakage, and maintenance (Discharge Code 102000N)									
Monitoring Location Description: Turbine Building closed cooling heat exchangers service water sampling valve, Reactor Building closed cooling heat exchangers service water discharge piping manifold sampling valve, emergency diesel service water line sampling valve, or auxiliary building service water sample valves.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	51,840,000	Weekly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	51,840,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Chlorine, Free Available (see remarks)	mg/l	NA	NA	NR	NA	0.25	Weekly	See remark 2 below	*

Table I Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Monthly Flow and Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) The Permittee shall maintain all free available chlorine analytical data on-site and shall report on the DMR the lowest and highest values for the month.

(2) Grab samples for free available chlorine monitoring shall be composed of a flow proportioned average of the operating service water trains.

TABLE J	Monitoring Location: 1

Discharge Serial Number: 001B-6

Wastewater Description: Condensate Polisher Regeneration Wastewater Neutralization Tank Discharge: Unit 2 Condensate Polishing Facility operation including system area floor drains, vents, incidental leakage, and maintenance activity wastewater, resin regeneration and drain wastewater, condensate system polisher wastewater, fire water, waste evaporator feed tank water, service water (seawater), Unit 3 Auxiliary Boiler system steam and drainage from condensate recovery tank, domestic water, hot water heating system drainage, plant equipment domestic water washwater, feed water and condensate system drainage (secondary system), air conditioner and air compressor condensate drains, condenser pit sumps, condenser pit sumps GAC filter backwash, Steam Generator drainage from wet lay-up during startup, shutdown, plant operation, incidental system leakage, and maintenance. This discharge is essentially a batch discharge; however, some of the minor inputs are continuous. Continuous inputs include domestic water inputs from pump and fan seal water and sample sink drains. In accordance with Section 4 (H), DSN 001B-1(a) and condenser pit sumps may be redirected to this alternative location during plant operation and maintenance activities. (Discharge Code 106000N)

Monitoring Location Description: Sample valves in the Condensate Polishing Facility on the filter outlet.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	75,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Ammonia as Nitrogen	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ammonia as Nitrogen	kg/day	NA	NA	NR	NA	-----	Monthly		
Nitrate	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrite	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Kjeldahl Nitrogen (TKN)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	37.5	Weekly	Grab	*
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	6.0 to 9.0	Weekly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table J Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE K	Monitoring Location: 1

Discharge Serial Number: 001B-8

Wastewater Description: Unit No. 2 Condenser Hotwell Discharge during start-up, shutdown, plant operation, incidental system leakage, and maintenance: Steam Generator(s) system drains during Unit 2 outages, drainage from feedwater and condensate systems, secondary system drainage including wet lay-up and Turbine Building drains during maintenance activities, incidental system leakage and maintenance activities including hydrolazing. DSN 001B-1 and DSN 001B-1(a) may be redirected to this alternative location in accordance with Section 4(H) (Discharge Code 117000N)

Monitoring Location Description: Sample valves on the discharge piping of the condensers or sample valves on the discharge piping of the condensate pumps.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	250,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table K Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE L	Monitoring Location: 1

Discharge Serial Number: 001B-9

Wastewater Description: Unit No. 2 Closed Cooling Water System Drainage: Turbine Building, Reactor Building closed cooling water drainage, chilled water system drainage, hydrolazing wastewaters, domestic water, demineralized water, service water and incidental system leakage during startup, plant operation, and maintenance. In accordance with Section 4 (H), DSNs 001B-5, 001B-8 and 001B-11 may be redirected to this alternative location. (Discharge Code 102000N)

Monitoring Location Description: Sample valves for reactor or Turbine Building sample sink, Turbine Building closed cooling water heat exchangers sample valves; Reactor Building closed cooling water heat exchangers sample valves, chilled water heat exchanger sample valves, or chilled water pump discharge sample valves.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	30,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Chlorodifluoromethane (see remark 1)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Dichlorodifluoromethane (see remark 1)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ethanolamine (see remark 3)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine (see remark 4)	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Molybdenum (see remark 2)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	

Table L Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) Sampling for chlorodifluoromethane and dichlorodifluoromethane is required when discharging closed cooling water system drainage.

(2) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

(3) Ethanolamine sample shall be collected and analyzed if ethanolamine is being used.

(4) Hydrazine sample shall be collected and analyzed if hydrazine is being used.

TABLE M	Monitoring Location: 1

Discharge Serial Number: 001B-10

Wastewater Description: Unit No. 2 - 16 inch standpipe discharge to the circulating water tunnel including Unit No. 2 Feedwater heaters shell & tube side drains, water box priming pumps, groundwater leakage, circulating water leakage, alternative pathway for the redirection of DSN001B-8 (condenser hotwells) DSN 001B-5 and DSN 001B-9 (TBCCW and chill water drainage), auxiliary feed water pump room sump discharge, Unit 2 feed and condensate drains, floor drains, Turbine Building closed cooling water, chilled water, de-icing pit sump, condenser pit sumps, mechanical vacuum pumps, secondary sample sink cooling water, auxiliary steam and condensate recovery, incidental system leakage during startup, shutdown, plant operation and maintenance, seal water and hydrolazing wastewater. DSNs 001B-5, 001B-8, 001B-9 and condenser pit sumps may be redirected to this alternative location only in accordance with Section 4 (H). (Discharge Code 106000N)

Monitoring Location Description: Dip sample of discharge water from the Turbine Building sump or sample of source water being discharged to standpipe.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	150,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ammonia – Nitrogen	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table M Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE N	Monitoring Location: 1

Discharge Serial Number: 001B-11

Wastewater Description: Unit No. 2 service water drainage and incidental system leakage from the Reactor Building closed cooling water (RBCCW) system, hydrolazing wastewater, floor drains, auxiliary building sumps, domestic washwater, RBCCW relief valve discharges, during startup, shutdown, plant operation, and maintenance and DSN 001B-9 may be redirected to this alternative location in accordance with Section 4 (H). (Discharge Code 106000N)

Monitoring Location Description: Auxiliary Building Sump

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	150,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine (see remark 3)	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Ethanolamine (see remark 2)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table N Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

(2) Ethanolamine sample shall be collected and analyzed if ethanolamine is being used.

(3) Hydrazine sample shall be collected and analyzed if hydrazine is being used.

TABLE O	Monitoring Location: 1

Discharge Serial Number: 001C

Wastewater Description: Unit 3 discharge, including DSNs 001C-1 through 001C-9, Non-contact cooling water discharge from Unit 3 circulating water pumps/condenser system, service water, intake pump operation discharges (seal, lube and strainer backwash water) returned to intake bays, and miscellaneous cooling water system leakage and drainage of plant systems and components during plant start up, shut down, plant operation, incidental system leakage and maintenance wastewater, intake desilting wastewater, intake bay maintenance and dewatering activities. (Discharge code 101060Z)

Monitoring Location Description: Dip sample from the mouth of discharge tunnel 001-C, which feeds into quarry

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	1,410,933,000	Continuous//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	1,410,933,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
pH (see remark 1)	S.U.	NA	NA	NR	NA	6.0 – 9.0	Hourly	RDM	
Chlorine, Free Available	mg/l	NA	NA	NR	NA	0.25	Weekly	Grab	*
Hydrazine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	*
Molybdenum	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Temperature, intake/outlet differential (see remarks 2 and 6)	^{o}F	NA	NA	NR	NA	28.0	Hourly	Instantaneous	

Table O Footnotes and Remarks:

Footnotes:

[1] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Monthly Flow and the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) The Permittee shall report the highest and lowest single pH and temperature reading of the month including periods when sampling is not performed. The Permittee shall monitor pH and temperature manually every four hours whenever the automated equipment malfunctions or is out of service.

(2) The differential temperature increase at the Unit 3 discharge above the intake water temperature shall not exceed 28^{o}F during full condenser cooling water flow operations and shall not exceed 30^{o}F for more than 24 hours due to pump failure or maintenance. During reduced flow due to extended (more than 24 hours) pump outage or maintenance, the delta T shall not exceed 30^{o}F with a corresponding limit of 36^{o}F for 24 hours due to failure or maintenance of an additional pump. During the reduced intake flow period specified in Section 10(C) of this permit, the delta T shall not exceed 38^{o}F during periods of reduced flow with a corresponding limit of 40^{o}F for 24 hours due to pump failure or maintenance.

(3) Free available chlorine shall not be discharged in the condenser cooling water for more than two hours in any one day. Free available chlorine shall not be discharged in the condenser cooling water of more

than one unit at any one time. Whenever the Unit 3 circulating water system is operating, weekly monitoring of free available chlorine shall be performed when chlorination of condenser cooling water occurs.

(4) The Permittee shall maintain all free available chlorine analytical data onsite and shall report on the DMR the lowest and highest values for each month.

(5) The Permittee shall maintain onsite the following data:

Daily range of pH.
Daily range of flow
Daily maximum temperature (^{o}F)
Daily minimum temperature (^{o}F)
Daily average temperature (^{o}F)
Daily maximum temperature increase (^{o}F)
Daily minimum temperature increase (^{o}F)
Daily average temperature increase (^{o}F)

(6) Routine operating procedures include the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels and a condenser backflush process for the removal of debris during and/or after storm events or following thermal backwashes. The true temperature difference between the intake water and discharge water into the Quarry shall be allowed to exceed the permit limit for very brief periods (i.e. a maximum of four hours per intake bay per backwash) during these backwash/backflush procedures.

TABLE P	Monitoring Location: 1

Discharge Serial Number: 001C-1

Wastewater Description: Unit 3 Steam Generator blowdown tanks and blowdown generated during open cycle Steam Generator blowdown during startup, standby, hot standby, operation and shutdown. DSN 001C-1(a) may be redirected to this alternative location per Section 4 (H) of this permit. (Discharge Code101060N)

Monitoring Location Description: Auxiliary building primary sink sample valve tapped from the Steam Generator blowdown (BD) piping, or secondary sample sink tapped from the BD line in the Unit 3 Turbine Building, or BD sample filters inlet drain valve also in the Unit 3 auxiliary building.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	1,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	1,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
pH	S.U.	NA	NA	NR	NA	------	Weekly	Grab	
Ammonia as Nitrogen	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Ammonia as Nitrogen	kg/day	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrate	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrite	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Kjeldahl Nitrogen (TKN)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Oil and Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table P Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) Grab sample shall be a flow proportional composite of grab samples of all Unit 3 Steam Generators being used.

TABLE Q									Monitoring Location: 1
Discharge Serial Number: 001C-1(a)									
Wastewater Description: Unit 3 Steam Generator (4) wet lay up drainage for maintenance, plant start up and shut down, chemical control and sludge lancing (Discharge Code 117000N)									
Monitoring Location Description: Sampling valve on the wet lay up recirculation pump skid discharge piping and drain valve for each Steam Generator recirculation header in the Unit 3 containment building, or the main steam valve building discharge header. For Sludge Lancing: After the filtration unit									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1] (see remark 3)	gpd	NA	576,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	125.0	Weekly	Grab	*
Ethanolamine (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Nickel, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Oil & Grease, Total (see remark 1)	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids (see remark 1)	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Iron, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Lead, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Copper, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Zinc, Total (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table Q Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) The Permittee shall sample sludge lancing wastewater after filtration at least once per year for the following pollutants: copper, iron, lead, nickel, oil & grease, total suspended solids and zinc.

(2) Sampling for ethanolamine is only required when ethanolamine is being added to the Steam Generator in wet layup.

(3) Only one unit may discharge secondary side wet lay up drainage at any one time.

TABLE R	Monitoring Location: 1

Discharge Serial Number: 001C-2

Wastewater Description: Unit No. 3 Radiation Waste Test Tank Discharge: Waste Test Tanks and Boron Test Tanks including wastewater from areas within the Auxiliary Building, Auxiliary Boiler, Steam Generator blowdown, sludge lancing, wet lay-up, Reactor Building and other radiologically controlled areas and various sumps located within the Unit 3 Turbine Building, Chemistry Laboratory drains, during plant start up, shut down, operation, maintenance and incidental system leakage. In accordance with Section 4 (H) of this permit, DSN 001C-1, 001C-1(a), 001C-3, 001C-9 and the Unit 3 Turbine Building Sump may be redirected to this alternative discharge location. (Discharge Code 153000N)

Monitoring Location Description: Boron Test Tanks sampled from the primary sample sink or from the Boron Test Tank recirculation pump discharge. Waste Test Tanks sampled from the liquid waste sample sink or from the Waste Test Tank recirculation pump discharge.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Flow, Maximum [1]	gpd	NA	50,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Dimethyldithiocarbamate (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Dimethylamine (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	------	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	

Table R Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

(2) A dimethyldithiocarbamate and dimethylamine sample be collected and analyzed if wastewaters containing either Bulab 6013 (dimethyldithiocarbamate) or Bulab 8007 (dimethylamine) is being discharged. If either of the water treatment chemicals have not been used within the previous two years sampling for the compound not in use is not required. In such a case, for DMR reporting purposes, note "Not Discharged (ND)" as the sample result with an explanation in the cover letter of the monthly DMR.

TABLE S	Monitoring Location: 1

Discharge Serial Number: 001C-3

Wastewater Description: Low Level Radiation Waste Drain Tank Discharge: Unit 3 Low Level Waste Drain Tank discharges including waste water from areas within the Reactor Building, Auxiliary Boiler, Steam Generator blowdown, sludge lancing, wet lay-up and other radiologically controlled areas, Chemistry Laboratory drains and various sumps located within the Unit 3 Turbine Building during plant start up and shut down, operation, maintenance, and incidental system leakage. In accordance with Section 4 (H) of this permit, DSN 001C-1, 001C-2, 001C-1(a), 001C-9, and the Unit 3 Turbine Building Sump may be redirected to this alternative location. (Discharge Code 117000N)

Monitoring Location Description: Low Level Radiation Waste Drain Tanks – Sample valves located in the Unit 3 liquid waste building and tapped from the recirculation pipe for the low level radiation waste drain tanks (A or B) at the discharge of the low level radiation waste drain tank discharge pumps (A or B). An alternate sample location is the Low Level Radiation Waste Drain Tank discharge recirculation pump discharge pressure gauge instrument block in the waste building.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	20,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Dimethyldithiocarbamate (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Dimethylamine (see remark 2)	mg/l	NA	NA	NA	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table S Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed quarterly during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

(2) A dimethyldithiocarbamate and dimethylamine sample shall be collected and analyzed monthly if wastewaters containing either Bulab 6013 (dimethyldithiocarbamate) or Bulab 8007 (dimethylamine) is being discharged. If either of the water treatment chemicals have not been used within the previous two years sampling for the compound not in use is not required. In such a case, for DMR reporting purposes, note "Not Discharged (ND)" as the sample result with an explanation in the cover letter of the monthly DMR.

TABLE T	Monitoring Location: 1

Discharge Serial Number: 001C-4

Wastewater Description: Unit No. 3 Secondary System Wet Lay up Drainage, condenser cleaning wastewater, hydrolazing, and incidental system leakage, Secondary System Drainage and Auxiliary Boiler Stack Drainage. DSNs 001C-6, 001C-6(b), 001C-9 and Unit 3 Reactor Containment Building Footing Drains may be discharged at this alternative location in accordance with Section 4 (H) of this permit. (Discharge Code 106000N)

Monitoring Location Description: Sample valve from the make up waste neutralization sump pump common discharge/recirculation pipe in the Unit 3 Turbine Building

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	-----	80,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table T Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE U	Monitoring Location: 1

Discharge Serial Number: 001C-5

Wastewater Description: Unit 3 service water from auxiliary heat exchangers during start up, shut down, operation, incidental system leakage and maintenance, continuous discharge of non-contact cooling water containing residual chlorine, including pump lubrication water, pump seal water, hydrolazing waste water, incidental leakage from heat exchanger tube leaks and cooling water supplied from the Unit 3 circulating water system during service water pump maintenance. Demineralized water used to flush the service water side of the RSS heat exchangers.

Monitoring Location Description: Sampling valves at the service water discharge of the A, B & C reactor plant closed cooling water heat exchangers.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	86,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	86,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Chlorine, Free Available (see remarks 1 & 2)	mg/l	NA	NA	NR	NA	0.25	Weekly	See remark below	*

Table U Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Monthly Flow and Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

1. The Permittee shall maintain all free available chlorine analytical data onsite and shall report on the DMR the lowest and highest values for month.

2. Grab samples for free available chlorine monitoring shall be composed of a flow proportioned average of the operating service water trains.

TABLE V	Monitoring Location: 1

Discharge Serial Number: 001C-6

Wastewater Description: Unit 3 Condensate Polishing Facility discharge: Unit 3 Condensate Polishing Facility operation including system area floor drains, vents, incidental leakage, maintenance activity wastewater, resin regeneration and drain wastewater, condensate polisher system wastewater, fire water, waste evaporator feed tank water, service water (seawater), Steam Generator wet lay up drainage, hot water heating system drainage, secondary system drainage and air conditioner and air compressor condensate drains during plant start up, plant operation, shut down, incidental system leakage, 3ABD-TK2 overflow and flow from 3ABD-TK1 or 3ABD-TK2 during maintenance activities. This discharge is essentially a batch discharge; however, some of the minor inputs are continuous. Continuous inputs include domestic water inputs from pump and fan seal water and sample sink drains. DSNs 001B-6, 001C-1(a), 001C-6(b) may be redirected to this alternative location in accordance with Section 4 (H) of this permit. (Discharge Code 106000N)

Monitoring Location Description: Sample valve on the common discharge line from TK-10 & TK-11 CPF sample sink on the filter outlet in the Unit 3 Turbine Building.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	75,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Ammonia as Nitrogen	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ammonia as Nitrogen	kg/day	NA	NA	NR	NA	-----	Monthly		
Nitrate	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrite	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Kjeldahl Nitrogen (TKN)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	37.5	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	6.0 – 9.0	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table V Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting

Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE W	Monitoring Location: 1
Discharge Serial Number: 001C-6(a)	
Wastewater Description: Unit No. 3 Steam Generator Chemical Cleaning and Chemical Decontamination Wastewater (Discharge Code 106000N)	
Monitoring Location Description: DSN 001C-2 or DSN 001C-3 discharge location (See Section 10, Paragraph B of this permit)	
Maximum Frequency of Discharge: Approximately 30 days during an outage	
Expected Frequency: One activity per year	

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	60,000	Monthly	Daily Flow	NA	NR	NA	
Boron, Total	mg/l	----	-----	Weekly	Daily Composite	NA	NR	NA	*
Cadmium, Total	mg/l	0.1	0.5	Weekly	Daily Composite	0.75	NR	NA	
Chromium, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	
Copper, Total	mg/l	1.0	1.0	Weekly	Daily Composite	1.5	NR	NA	*
Iron, Total	mg/l	1.0	1.0	Weekly	Daily Composite	1.5	NR	NA	
Hydrazine	mg/l	-----	------	Weekly	Daily Composite	NA	NR	NA	*
Lead, Total	mg/l	0.1	0.5	Weekly	Daily Composite	0.75	NR	NA	*
Nickel, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	*
Zinc, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	*
pH	S.U.	NA	NA	NR	NA	6.0 to 9.0	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	Weekly	Daily Composite	30.0	NR	NA	
Oil & Grease, Total	mg/l	10.0	15.0	Weekly	Grab Sample Average	15.0	NR	NA	
Molybdenum (see remark 1)	mg/l	-----	-----	Weekly	Daily Composite	NA	NR	NA	

Table W Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE X	Monitoring Location: 1

Discharge Serial Number: 001C-6(b)

Wastewater Description: Intermittent discharge of the Unit 3 Auxiliary Boiler blowdown including continuous discharge of Auxiliary Boiler components during Auxiliary Boiler operation, hot water heating system drainage, intermittent discharge of the Auxiliary Boiler enclosure oil and water separator and drainage of secondary system wastewater during plant start up, shut down, plant operation, incidental system leakage and maintenance. (Discharge Code 117000N)

Monitoring Location Description: Sample valve tapped from the outlet pipe downstream of 3ABD-TK2-pump discharge in the east CPF enclosure in the Unit 3 Turbine Building.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Flow, Maximum [1]	gpd	NA	72,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	------	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table X Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE Y	Monitoring Location: 1

Discharge Serial Number: 001C-8

Wastewater Description: Unit 3 Condenser Hotwell wastewater discharged directly from the condensate pump discharge including secondary system wastewater drainage for maintenance, secondary system drainage to control secondary plant water inventory (condensate surge tank level) during plant start up and shut down, secondary system wet lay up wastewater and hotwell wet lay up drainage during start up, shut down, operation, incidental system leakage and maintenance. DSNs 001C-1 and 001C-1(a) may be redirected to this alternative location in accordance with Section 4 (H) of this permit. (Discharge Code 117000N)

Monitoring Location Description: Condensate pump discharge sample valve in secondary sample sink in the Unit 3 Turbine Building.

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	250,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table Y Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

(1) A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

TABLE Z									**Monitoring Location:** 1
Discharge Serial Number: 001C-9									
Wastewater Description: Unit No. 3 Closed Cooling Water System Drainage: Turbine Building and Reactor Building closed cooling water drainage, reactor plant and control building chilled water system drainage, service water system drainage. DSN 001C-8, condenser hotwell drainage, may be redirected to this alternative location in accordance with Section 4 (H) of this permit. (Discharge Code 102000N)									
Monitoring Location Description: Sample from collection, container, isolated system, or DSN 001C-8 when drained via this DSN.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Flow, Maximum [1]	gpd	NA	30,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Ethanolamine (see remark 3)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine (see remark 4)	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Molybdenum (see remark 2)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	------	Weekly	Grab	
Chlorodifluoromethane (see remark 1)	ug/l	NA	NA	NR	NA	-----	Monthly	Grab	
Dichlorodifluoromethane (see remark 1)	ug/l	NA	NA	NR	NA	-----	Monthly	Grab	

Table Z Footnotes and Remarks:

Footnotes:

[1] The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

Remarks:

1. Sampling for chlorodifluoromethane and dichlorodifluoromethane is required when discharging closed cooling water system drainage.

2. A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.

3. Ethanolamine sample shall be collected and analyzed if ethanolamine is being used.

4. A hydrazine sample shall be collected and analyzed if hydrazine is being used.

TABLE AA

DISCHARGE SERIAL NUMBER: 003-1	**MONITORING LOCATION:** 1

WASTEWATER DESCRIPTION:
Unit No. 2 Screen Washwater Discharge, including non-chlorinated sea water taken from the intake used to wash down the traveling screens in all intake bays, and domestic water from wash downs and hydrolazing activities, domestic water used as bearing lube water for screenwash pumps and system leakage, drains, and incidental system leakage and maintenance activities during startup, operation and shutdown and screen wash strainer backwash, intake desilting wastewaters, service water pump header discharge and strainer backwash, and fire water used in an emergency to clean the traveling screens. These discharges are normally directed to the Unit 2 fish return (DSN 003a) through the fish and invertebrate return trough. This discharge may be directed to DSN 003a as an alternate pathway in accordance with Section 4(H) of this permit.
(Discharge Code 106000N)

MONITORING LOCATION DESCRIPTION:
Service water strainer sample stop valves L1A, L1B and L1C

MAXIMUM DAILY FLOW: 3,888,000 gallons per day
DISCHARGE IS TO: Niantic Bay

PARAMETER	**LIMITS & MONITORING**		
	Maximum Instantaneous Limit	Sample//Reporting Frequency[1]	Sample Type
Chlorine, Total Residual (mg/l) (see remark 4)	-----	Semi-annual (see remark 1)	Grab
Maximum, Flow (gpd)	See remark 2 below	Monthly	Daily Flow

Table AA Footnotes:

[1] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

Table AA Remarks:

(1) Monitoring at DSN 003 shall be conducted during the backwash of the Unit 2 service water system strainer.

(2) The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

(3) Routine operating procedures include the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels and a condenser backflush process for the removal of debris during and/or after storm events or following thermal backwashes. The wastewater from thermal backwashing shall not reenter Niantic Bay except in de minimis quantities.

(4) Minimum level of 20 ug/l for chlorine, total residual applies to this discharge.

TABLE BB			
DISCHARGE SERIAL NUMBER: 003a-1		**MONITORING LOCATION:** 1	
WASTEWATER DESCRIPTION: Unit No. 2 fish and invertebrate return trough discharge including wastewaters incorporated in DSN 003 may be directed to this alternate pathway in accordance with Section 4(H) of this permit. (Code 1060000)			
MONITORING LOCATION DESCRIPTION: Service water strainer sample stop valves L1A, L1B and L1C			
MAXIMUM DAILY FLOW: 3,888,000 gallons per day **DISCHARGE IS TO:** Niantic Bay			
PARAMETER	**LIMITS & MONITORING**		
	Maximum Instantaneous Limit	Sample//Reporting Frequency[1]	Sample Type
Chlorine, Total Residual (mg/l) (see remark 3 below)	------	Semi-annual (see remark 1)	Grab
Maximum, Flow (gpd)	See remark 2 below	Monthly	Daily Flow

Table BB Footnotes:

[1] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

Table BB Remarks:

(1) Monitoring at DSN 003(a) shall be conducted during the backwash of the Unit 2 service water system strainer.

(2) The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

(3) Minimum level of 20 ug/l for chlorine, total residual applies to this discharge.

TABLE CC

DISCHARGE SERIAL NUMBER: 004-1	**MONITORING LOCATION:** 1

WASTEWATER DESCRIPTION:
Unit No. 3 Screen Washwater Discharge, including the debris conveyor and backside refuse trough located on the southeast corner of the Unit 3 intake structure and the Unit 3 fish return trough located on the northwest corner of the Unit 3 intake structure, domestic water from wash downs, hydrolazing activities, service water pump strainer backwashes, fire suppression system discharges, incidental system leakage and screen wash strainer backwash. (Code 1060000)

MONITORING LOCATION DESCRIPTION:
The fish return trough located on the northwest corner of the Unit 3 intake structure

MAXIMUM DAILY FLOW: 11,520,000 gallons per day
DISCHARGE IS TO: Niantic Bay

PARAMETER	**LIMITS & MONITORING**		
	Maximum Instantaneous Limit	Sample//Reporting Frequency[1]	Sample Type
Chlorine, Total Residual (mg/l) (see remark 4 below)	-----	Semi-annual (see remark 1)	Grab
Maximum, Flow (gpd)	See remark 2 below	Monthly	Daily Flow

Table CC Footnotes:

[1] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

Table CC Remarks:

(1) Monitoring at DSN 004 shall be conducted during the backwash of the Unit 3 service water system strainer.

(2) The Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Maximum Daily Flow for each month.

(3) Routine operating procedures include the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels and a condenser backflush process for the removal of debris during and/or after storm events or following thermal backwashes. The wastewater from thermal backwashing shall not reenter Niantic Bay except in de minimis quantities.

(4) Minimum level of 20 ug/l for chlorine, total residual applies to this discharge.

TABLE DD

Monitoring Location: 1

Discharge Serial Number: 006-1

Wastewater Description: Unit No. 2 and Unit No. 3 floor drains, surface runoff and yard drains including: Unit 2 and Unit 3 Secondary System Drainage, Unit 2 and Unit 3 Turbine Building floor drains; Unit 3 control building floor drains; Unit 3 Engineered Safety Feature building roof drains; Unit 2 and 3 emergency diesel jacket cooling water drainage; Unit 2 and Unit 3 secondary system incidental leakage and drainage during plant start up, shut down, operation and maintenance; Unit 2 and Unit 3 secondary system sample waste; Units 2 and 3 condensate surge tank drainage; hydrolazing and water washes including domestic water, de-ionized water and seawater; clean water drains; service water system drainage; domestic and fire system drainage; continuous reject flow from reverse osmosis treatment of make-up water from Unit 2 and Unit 3 pure water treatment systems; Units 2 and 3 intake structure debris dumpster leakage; above wastewaters generated during start up, shut down, and plant operation, incidental system leakage and maintenance; fire suppression system discharges, including flush phase of fire water system test; air conditioning and compressor condensate drains; Millstone Radwaste Reduction Facility sump; condensate polishing facility spent ion exchange resin dewatering drainage and Unit 3 Reactor Building footing drain water, Unit 2 and Unit 3 emergency diesel generator room floor drains through oil/water separators; transformer area yard drains through oil/water separators; and generator stator cooling drains. (Discharge Code 101060N)

Monitoring Location Description: Sampling manhole approximately 245 feet from outlet

Discharge is to: Long Island Sound via Niantic Bay

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test [3]
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Aquatic Toxicity, Mysidopsis bahia Invertebrate [4]	%	NA	NA	NR	NA	LC50>33%	NR	Grab	
Aquatic Toxicity, Cyprinodon variegatus Vertebrate [4]	%	NA	NA	NR	NA	LC50>33%	NR	Grab	
Flow, Average and Maximum [1]	gpd	216,000	432,000	Hourly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total	gpd	-----	432,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
pH (see remarks 2 and 3)	S.U.	NA	NA	NR	NA	6.0 – 9.0	Weekly	RDS	
pH (see remarks 2 and 3)	S.U	NA	NA	NR	NA	6.0 – 9.0	Hourly	RDM	
Ammonia as Nitrogen	mg/l	-----	-----	Quarterly	Daily Composite	NA	NR	NA	
Boron	mg/l	-----	-----	Quarterly	Daily Composite	NA	NR	NA	*
Ethanolamine	mg/l	-----	-----	Monthly	Daily Composite	NA	NR	NA	
Hydrazine	ug/l	50.0	100.0	Monthly	Daily Composite	140.0	NR	NA	*
Oil & Grease, Total (see remark 1)	mg/l	10.0	15.0	Quarterly	Grab Sample Average	15.0	NR	NA	
Surfactants - Anionic	mg/l	-----	-----	Quarterly	Daily Composite	NA	NR	NA	

Total Suspended Solids (see remark 2)	mg/l	20.0	30.0	Quarterly	Daily Composite	30.0	NR	NA	

Table DD Footnotes and Remarks:

Footnotes:

[1] For this parameter the Permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Monthly Flow and the Maximum Daily Flow for each month. Note: The average monthly and maximum daily flow limit excludes stormwater run-off from storm events greater than 0.1 inch of rain or observed snow melt.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

[3] Minimum Level Test refers to Section 6, Paragraph (A) of this permit, where an asterisk appears.

[4] See Section 6(B) of this permit for additional aquatic toxicity requirements.

Remarks:

1. A quarterly sample shall be collected and analyzed for oil and grease, total during a period of discharge from oil-water separator(s).

2. Sample shall be collected and analyzed for total suspended solids and pH during dry weather flows in accordance with the frequency specified above.

3. The Permittee shall monitor flow and pH manually every 4 hours whenever the automated equipment malfunctions or is out of service for maintenance.

TABLE EE -T

Discharge Serial Number (DSN): 006-1 | **Monitoring Location:** T

Wastewater Description: Unit No. 2 and Unit No. 3 floor drains, surface runoff and yard drains including: Unit 2 and Unit 3 Secondary System Drainage, Unit 2 and Unit 3 Turbine Building floor drains; Unit 3 control building floor drains; Unit 3 Engineered Safety Feature building roof drains; Unit 2 and 3 emergency diesel jacket cooling water drainage; Unit 2 and Unit 3 secondary system incidental leakage and drainage during plant start up, shut down, operation and maintenance; Unit 2 and Unit 3 secondary system sample waste; Units 2 and 3 condensate surge tank drainage; hydrolazing and water washes including domestic water, de-ionized water and seawater; clean water drains; service water system drainage; domestic and fire system drainage; continuous reject flow from reverse osmosis treatment of make-up water from Unit 2 and Unit 3 pure water treatment systems; Units 2 and 3 intake structure debris dumpster leakage; above wastewaters generated during start up, shut down, and plant operation, incidental system leakage and maintenance; fire suppression system discharges, including flush phase of fire water system test; air conditioning and compressor condensate drains; Millstone Radwaste Reduction Facility sump; condensate polishing facility spent ion exchange resin dewatering drainage and Unit 3 Reactor Building footing drain water. Unit 2 and Unit 3 emergency diesel generator room floor drains through oil/water separators; transformer area yard drains through oil/water separators; and generator stator cooling drains. (Discharge Code 101060N)

Monitoring Location Description: Manhole 245 feet from outlet

Allocated Zone of Influence (ZOI): 342,000 gallons per hour **In stream Waste Concentration (IWC):** 2.6%

PARAMETER	Units	Maximum Daily Limit	Sampling Frequency	Sample Type	Minimum Level Analysis See Section 6
Aquatic Toxicity, Mysidopsis bahia Invertebrate	%	LC50> 100%	Quarterly	Daily Composite	
Aquatic Toxicity, Cyprinodon variegatus Vertebrate	%	LC50> 100%	Quarterly	Daily Composite	
Chlorine, Total Residual	mg/l	-----	Quarterly	Daily Composite	20.0 ug/l
Boron, Total	mg/l	------	Quarterly	Daily Composite	1.0 mg/l
Copper, Total	mg/l	-------	Quarterly	Daily Composite	5.0 ug/l
Lead, Total	mg/l	-----	Quarterly	Daily Composite	5.0 ug/l
Nickel, Total	mg/l	-----	Quarterly	Daily Composite	5.0 ug/l
Nitrogen, Ammonia (total as N)	mg/l	-----	Quarterly	Daily Composite	
Total Suspended Solids	mg/l	30.0	Quarterly	Daily Composite	
Surfactants - Anionic	mg/l	-----	Quarterly	Daily Composite	

TABLE EE -T					
Discharge Serial Number (DSN): 006-1				**Monitoring Location:** T	
Zinc, Total	mg/l	-----	Quarterly	Daily Composite	20.0 ug/l

TABLE FW			
DISCHARGE SERIAL NUMBERS: 005, 007, 008, 009, 012, 014, 015, 016, 019, 021, 022 024, 024A, 027, 028, 032, fire water system flow test to Niantic Bay			
WASTEWATER DESCRIPTION: Fire suppression system discharges, including flow phase of fire water system test, clean water washes or drains, air conditioning condensate to all stormwater discharges listed above and oil/water separator discharge from Unit 2 lube oil storage room. (Discharge Code 108000N)			
MAXIMUM DAILY FLOW: Intermittent			
MONITORING LOCATION: Fire Water Tank **DISCHARGE IS TO:** Niantic Bay			
PARAMETER	**LIMITS & MONITORING**		
	Maximum Instantaneous Limit	Sample//Reporting Frequency[1]	Sample Type
Chlorine, Total Residual (mg/l) (Note: Minimum level of 20 ug/l for chlorine, total residual applies to this discharge.)	NA	Annual	Grab

TABLE FF
DISCHARGE SERIAL NUMBERS: 008, 013, 014, 018, 019, 020, 023, 024A, 025, 026, 028, 029, SMA-1, SMA-2, SMA-3, SMA-4
WASTEWATER DESCRIPTION: Parking area and/or roadway stormwater runoff (Discharge Code 108000N)
MAXIMUM DAILY FLOW: Intermittent
MONITORING LOCATION: No monitoring required **DISCHARGE IS TO:** Niantic Bay

TABLE GG-1
DISCHARGE SERIAL NUMBER: 017-1
WASTEWATER DESCRIPTION: Marine Biology Laboratory Seawater Return
Receiving Stream: Jordan Cove
Maximum Daily Flow: Variable
MONITORING LOCATION: No monitoring required

TABLE GG-2			
DISCHARGE SERIAL NUMBER: 017a-1			
WASTEWATER DESCRIPTION: Marine Biology Laboratory Filter Backwash			
MAXIMUM DAILY FLOW: Variable			
MONITORING LOCATION: 2-inch discharge line to quarry			
PARAMETER	**LIMITS & MONITORING**		
	Maximum Instantaneous Limit	Sample//Reporting Frequency[1]	Sample Type
Chlorine, Total Residual (mg/l) (Note: Minimum level of 20 ug/l for chlorine, total residual applies to this discharge.)	------	Annual	Grab
Total Suspended Solids	------	Annual	Grab

TABLE HH		
Monitoring Site No. 001		
MONITORING LOCATION: 7		
MONITORING LOCATION DESCRIPTION: Unit Nos. 2 and 3 Intakes (Before Condensers)		
PARAMETER		
	Sample// Reporting Frequency [1]	Sample Type
Intake flow limits for cooling water purposes (see Section 10(C) of this permit)	Hourly	Instantaneous (as determined by the Environmental Data Acquisition Network or equivalent)
Temperature ^{o}F	Hourly	Instantaneous
Total Suspended Solids (mg/l)	Daily, (see remark 3)	Grab, (see remark 3)
Turbidity (NTU)	Daily, (see remark 3)	Grab, (see remark 3)

Table HH Footnotes:

1 The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample Frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'.

Table HH Remarks:

(1) The Permittee shall record and retain on-site the flow and temperature at the Unit 2 and Unit 3 intakes.

(2) The temperature at the intake units shall be used in determining and reporting the change in temperature required to be reported by this permit at various discharge monitoring locations.

(3) Turbidity and total suspended solids monitoring is only required on days when desilting operations wastewater from either Unit 2 or Unit 3 is discharged to the Quarry. The background sample for turbidity to determine compliance shall be a grab sample from the vicinity of the Millstone Harbor or the Environmental Laboratory Boat Dock.

TABLE II Testing protocol DSN 001-1 Mysid 48-hour acute and 7-day chronic tests	
Testing procedure	Acute: first 48-hours of the chronic test as modified below. Chronic: EPA-821-R-02-014, except as modified below.
Test type	Static with daily renewal
Salinity	Laboratory control water (26 to 32 parts per thousand); Effluent, as is (DSN 001-1), site control water, as is (Niantic Bay)
Temperature	26^0C $\pm$ 1
Light	Ambient laboratory illumination
Photoperiod	16-h light, 8-h dark
Test chamber type	Glass or plastic (250 - 400 mL capacity)
Test solution volume	200 mL per replicate
Test solution renewal	Daily
Age of test organisms	7 days old
No. of test organisms	5 per replicate chamber
Replicates	12 - 100% effluent and 12 – Site control, 12 Laboratory control water
Source of food	Newly hatched (less than 24-hour old) brine shrimp nauplii. Concentrate brine shrimp nauplii with $\leq$ 150 *u*m sieve mesh and rinse with seawater.
Feeding regime	About 150 brine shrimp nauplii per mysid once per day (about one concentrated drop). Feed after test solution renewal.
Cleaning test chambers	Siphon excess food prior to test solution renewal.
Aeration	None, unless DO falls below 4.0 mg/l, then gently aerate all chambers.
Control water	Niantic Bay water collected near the intakes of MPS, grab samples, three separate collections: collected on day 0, day 2, and day 4.
Effluent	24 hour composite collected at DSN 001-1 (quarry cut). Collected on day 0, day 2 and day 4.
Test duration	Acute: 48 hours Chronic: 7 days
Endpoint	Acute: Survival Chronic: Survival, growth and percent of total females with eggs in oviducts.
Mortality observations	Each test chamber is examined for mortality at 24 hour intervals. Dead individuals are removed and if any individuals are missing (via cannibalism) they are noted.
Physical-chemical measurements of solutions in test chambers	Temperature, salinity, DO and pH of the effluent and control test solutions are measured at the beginning, at 24 hour intervals and at test termination. These parameters are measured prior to and after test solution renewals.
Physical-chemical measurements of	Prior to test initiation the following parameters are measured or aliquots preserved for later measurement with each of three composite sample collections at DSN 001-1 and each grab

composite effluent sample and control grab test sample	sample collected from the intake area: salinity, pH, total residual chlorine, ammonia as N, nitrate as N, nitrite as N, total suspended solids, total recoverable and dissolved boron, total recoverable and dissolved copper, total recoverable and dissolved lead, total recoverable and dissolved nickel, total recoverable and dissolved zinc, total recoverable and dissolved molybdenum, total kjeldahl nitrogen, and hydrazine.
Reference toxicant	Sodium dodecyl sulfate with an acute endpoint (48 hours) and chronic endpoint.
Test acceptability criteria:	Acute: 90% survival (averaged) in laboratory controls Chronic: 80% survival (averaged) in laboratory control after 7 days. A minimum average dry weight of 0.2 mg per surviving mysid in controls is required. Fecundity shall be used as an endpoint if 50% or more of the females in the laboratory control produce eggs.

TABLE JJ **Testing protocol DSN 001-1 Sheepshead minnow 48-hour acute and 7-day chronic tests**	
Testing procedure	Acute: first 48-hours of the chronic test as modified below. Chronic: EPA-821-R-02-014, except as modified below.
Test type	Static with daily renewal
Salinity	Laboratory control water (26 to 32 parts per thousand); Effluent, as is (DSN 001-1), site control water, as is (Niantic Bay)
Temperature	26^0C $\pm$ 1
Light	Ambient laboratory illumination
Photoperiod	16-h light, 8-h dark
Test chamber type	Glass or plastic (1 Liter capacity)
Test solution volume	500 - 750 mL per replicate
Test solution renewal	Daily
Age of test organisms	$\leq$24 hours old
No. of test organisms	10 per replicate chamber
Replicates	6 - 100% effluent and 6 – Site control and 6 Laboratory control water
Source of food	Newly hatched (less than 24-hour old) brine shrimp nauplii. Concentrate brine shrimp nauplii with $\leq$ 150 *u*m sieve mesh and rinse with seawater.
Feeding regime	Feed once a day concentrated brine shrimp at a rate per replicate of 0.1 mL (2 drops) on days 0-2 and 0.15 mL (3 drops) on days 3-6. Feed after test solution renewals.
Cleaning test chambers	Siphon excess food prior to test solution renewal.
Aeration	None, unless DO falls below 4.0 mg/l, then gently aerate all chambers.
Control water	Niantic Bay water collected near the intakes of MPS, grab samples, three separate collections: collected on day 0, day 2, and day 4.

Effluent	24 hour composite collected at DSN 001-1 (quarry cut). Collected on day 0, day 2 and day 4.
Test duration	Acute: 48 hours Chronic: 7 days
Endpoint	Acute: Survival. Chronic: Survival and growth
Mortality observations	Each test chamber is examined for mortality at 24 hour intervals. Dead individuals are removed.
Physical-chemical measurements of solutions in test chambers	Temperature, salinity, DO and pH of the effluent and control test solutions are measured at the beginning, at 24 hour intervals and at test termination. These parameters are measured prior to and after test solution renewals.
Physical-chemical measurements of composite effluent sample and control grab test sample	Prior to test initiation the following parameters are measured or aliquots preserved for later measurement with each of three total composite sample collections at DSN 001-1 and each grab sample collected from the intake area: salinity, pH, total residual chlorine, ammonia as N, nitrate as N, nitrite as N, total suspended solids, total recoverable and dissolved boron, total recoverable and dissolved copper, total recoverable and dissolved lead, total recoverable and dissolved nickel, total recoverable and dissolved zinc, total kjeldahl nitrogen, total recoverable and dissolved molybdenum, and hydrazine.
Reference toxicant	Sodium dodecyl sulfate with an acute endpoint (48 hours) and chronic endpoint.
Test acceptability criteria:	Acute: 90% survival (averaged) in laboratory controls Chronic: 80% survival (averaged) in laboratory control after 7 days. A minimum average dry weight of 0.6 mg per surviving organism in laboratory controls (unpreserved).

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

(1) Unless otherwise specified in this permit, the Permittee shall perform chemical analyses to determine compliance with effluent limits and conditions established in this permit, including all of the Tables, using the methods specified in the Code of Federal Regulations, Part 136 of Title 40 (40 CFR 136) unless an alternative method has been approved in writing (a) by the Regional Administrator U.S.EPA Region I pursuant to 40 CFR 136.5, or (b) as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have methods of analysis specified in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.

(2) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified by the Permittee for the parameters identified in Section 5 of this permit. Except for chlorine, free available and chlorine, total residual, analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

Parameter	Minimum Level
Boron	1.0 mg/l
Chlorine, Free Available	20.0 ug/L
Chlorine, Total Residual	20.0 ug/L
Copper	5.0 ug/L
Hydrazine (iodine titration)	350 ug/L+
Hydrazine (UV/VIS Spectrophotometric)	5.0 ug/L+
Lead	5.0 ug/L
Nickel	5.0 ug/L
Zinc	20.0 ug/L

+ This Minimum level applies to the discharges noted in section 6(A)(6) of this permit.

(3) The Permittee shall report the value of each parameter for which monitoring is required under this permit to the maximum level of accuracy and precision possible consistent with the requirements of this section of the permit.

(4) The Permittee shall report effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this section and which indicate that a parameter was not detected as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.

(5) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

(6) The Permittee shall test for hydrazine using iodine titration with a minimum detection level of 350 ug/l and shall use this test method to determine compliance with the limit for hydrazine for the following discharges: DSN 001B-1(a), DSN 001B-2(a), DSN 001B-2, DSN 001B-2(b), DSN 001B-3, DSN 001B-6, DSN 001B-8, DSN 001B-9, DSN 001B-10, DSN 001B-11, DSN 001C-1(a), DSN 001C-2, DSN 001C-3, DSN 001C-4, DSN 001C-6, DSN 001C-6(a), DSN 001C-6(b), DSN 001C-8 and DSN 001C-9. The Permittee shall test for hydrazine using UV/VIS spectrophotometric with a minimum detection level of 5.0 ug/l and shall use this test method to

determine compliance with the limit for hydrazine at all other discharge locations.

(7) To determine compliance with the limit for boron at all specified discharge locations, the Permittee shall test for boron using acid-base titration with a detection limit of 1.0 mg/l.

(8) The Permittee shall use the following analytical methods to determine compliance with the limits for the following substances in this permit:

Parameter	Methodology
Chlorine, Free Available	DPD Colorimetric Method, SM 4500-Cl G
Chlorine, Total Residual	DPD Colorimetric Method, SM 4500-Cl G
Ethanolamine (ETA)	Ion Chromatography (IC)
Ethanolamine (ETA)	Total Organic Carbon, EPA Method 415.1 (SM5310)+
Lithium	SM 3120B, excluding sample digestion
Total Suspended Solids	EPA Method 160.2 or modified method for ultra-pure wastewaters++

\+ Use of this methodology is restricted to analysis for Steam Generator secondary side wet lay-up and Steam Generator cool down drains

++ Total suspended solids analysis of ultra-pure wastewaters will be performed using a one-liter sample of the wastewater

(9) As an alternative to the test method specified in Section 6(A)(8), the Permittee may use the following test method to analyze for free available chlorine and total residual chlorine: N,N-diethyl-p-phenylenediamine (DPD) methodology as performed by the HACH Pocket Colorimeter Chlorine Test Kit (The HACH Kit). The HACH Kit shall meet the requirements of Standard Method 4500-CLG, shall have a minimum level of 0.02 mg/l for free available chlorine and total residual chlorine and shall measure Total Residual Oxidants in salt water.

(B) Acute Aquatic Toxicity Test

(1) Unless this permit prescribes otherwise, the Permittee shall collect and handle samples for monitoring of Aquatic Toxicity for DSN 006-1 as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012). When collecting and handling any such samples the Permittee shall:

(a) Chill composite samples as they are collected. Grab samples shall be chilled immediately following collection. Samples shall be held at 0 - 6 degrees Celsius until Aquatic Toxicity testing is initiated.

(b) Not dechlorinate, filter or modify effluent samples in any way, prior to testing for Aquatic Toxicity, unless specifically approved in writing by the Commissioner.

(c) Conduct chemical analyses of the parameters identified in Section 5 Table EE-T on an aliquot of the same sample tested for Aquatic Toxicity as follows:

(i) At a minimum, pH, specific conductance, salinity and total residual chlorine shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of test solution and in the dilution (control) water at the beginning of the test and at test termination. If Total Residual Chlorine is not detected at test initiation, it does not need to be measured at test termination.

Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

(ii) For tests with saltwater organisms that require salinity adjustment of the effluent, The Permittee shall conduct chemical analyses on an aliquot of the effluent sample collected for Aquatic Toxicity testing and on an aliquot of the effluent following salinity adjustment. Both sets of results shall be reported on the Aquatic Toxicity Monitoring Report (ATMR) submitted under Section 8(B) of this permit.

(d) Initiate tests for Aquatic Toxicity within 36 hours of sample collection.

(2) The Permittee shall determine compliance with the permit limit for Aquatic Toxicity (invertebrate) (Table EE-T) by conducting testing for 48-hours utilizing neonatal *Mysidopsis bahia* (1-5 days old with no more than 24-hours range in age)

(3) The Permittee shall determine compliance with the permit limit for Aquatic Toxicity (vertebrate) (Table EE-T) by conducting testing for 48-hours utilizing larval *Cyprinodon variegatus* (1-14 days old with no more than 24-hours range in age).

(4) Except as specified below, the Permittee shall conduct static non-renewal acute tests for Aquatic Toxicity as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012), except as specified below.

(a) Definitive (multi-concentration) testing, with LC50 as the endpoint, shall be conducted to determine compliance with limits on Aquatic Toxicity and monitoring conditions and shall incorporate, at a minimum, the following effluent concentrations:

(i) For Aquatic Toxicity Limits expressed as LC50 values of 33% or greater: 100%, 75%, 50%, 25%, 12.5%, and 6.25%

(b) Sodium lauryl sulfate or sodium dodecyl sulfate shall be used as the reference toxicant.

(c) Synthetic seawater for use as dilution water or controls shall be prepared with deionized water and artificial sea salts as described in EPA/821-R-02-012.

(d) Aquatic toxicity tests with saltwater organisms shall be conducted at a salinity between 26 and 32 parts per thousand.

(e) Salinity adjustment that may be required in tests with saltwater organisms shall utilize the approved EPA method and the effluent shall be adjusted using synthetic sea salts.

(5) Compliance with limits on Aquatic Toxicity shall be determined as follows:

(a) For limits expressed as a minimum LC50 value, compliance shall be demonstrated when the results of a valid definitive Aquatic Toxicity test indicates that the LC50 value for the test is greater than the Aquatic Toxicity Limit.

SECTION 7: CHRONIC TOXICITY MONITORING CONDITION

(A) The Permittee shall monitor the chronic toxicity of discharge DSN001-1 in accordance with the following requirements:

(1) Chronic toxicity testing of the discharge shall be conducted four times per year in the months of January, April, July and October.

(2) Except as modified in the testing protocol (see Tables II and JJ) single concentration, static renewal chronic toxicity tests shall be performed on the discharge in accordance with the test methodology prescribed in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms (EPA 821-R-02-014) as referenced in 40 CFR 136 for *Cyprinodon variegatus* larval survival and growth and *Mysidopsis bahia* survival, growth, and fecundity;

(3) Daily composite samples of the discharge DSN 001-1, collected at the quarry cut outlet and grab samples of Niantic Bay water collected in the vicinity of the cooling water intake structures for use as site control water, shall be collected on day 0, day 2, and day 4 of the test.

(4) Samples of DSN 001-1 and site control water shall not be dechlorinated, filtered or chemically altered in any way. Removal of any indigenous organisms that may be present shall be accomplished using an eye dropper.

(5) Test solutions shall be renewed daily. Samples collected on day 0 shall be used for day 1 and day 2 of the test, samples collected on day 2 shall be used for days 3 and 4, and samples collected on day 4 shall be used for the reminder of the test. In no case shall samples of DSN 001-1 or the site control water be held longer than 36 hours prior to their first use for renewal of test solutions.

(6) Laboratory control water shall be adjusted to a salinity of 26 to 32 parts per thousand.

(7) A reference toxicant test shall be conducted with each chronic toxicity monitoring test using sodium lauryl sulfate or sodium dodecycl sulfate with an acute LC50 as the endpoint. The reference toxicant test shall report both the Lowest Observable Effect Concentration (LOEC) and Chronic No Observable Effect Concentration (CNOEC) endpoints.

(B) Compliance with the permit limit for Aquatic Toxicity specified in Table A shall be demonstrated when the 48-hour results of a valid chronic test, which meets acute test acceptability criteria, demonstrates mean survival equal to or greater than 90% in the undiluted effluent sample.

(C) If any chronic toxicity test result indicates a significant difference (i.e., as determined by means of a one-tailed t-test at an alpha level of 0.05) in mortality of test organisms between samples of DSN 001-1 and the control, the Permittee shall immediately notify the Department and submit to the Department within 30 days of the conclusion of the test a brief summary of the test results which includes at a minimum percent survival in each replicate test chamber and all supporting chemical/physical measurements performed in association with the toxicity test.

SECTION 8: REPORTING REQUIREMENTS

(A) The Permittee shall enter the results of all monitoring and analyses used to demonstrate compliance with Section 5 of this permit, all chemical analyses and any aquatic toxicity test required by this permit on the Discharge Monitoring Report (DMR) prescribed by the Commissioner, and shall send the DMR to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing) at the following address. The report shall also include a detailed explanation of any violations of any limit of this permit reported on the DMR, including any corrective action taken. The Permittee shall ensure that the DMR shall

be received at this address by the last day of the month following the month in which samples are collected.

Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(B) The Permittee shall enter on the Aquatic Toxicity Monitoring Report (ATMR) form prescribed by the Commissioner complete and accurate aquatic toxicity test data, including percent survival of test organisms in each replicate test chamber, LC50 values and 95% confidence intervals for definitive test protocols, and for chronic tests the LOEC and CNOEC and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, including measured daily flow and hours of operation for the day of sample collection and shall send such report to the Bureau of Water Protection and Land Reuse at the following address:

Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity)
Connecticut Department of Environmental Protection
79 Elm St.
Hartford, Ct 06106-5127

The Permittee shall ensure that the ATMR is received at this address by the last day of the month following the month in which samples are collected.

The Permittee shall prepare a complete and thorough report of the results of the chronic toxicity monitoring for DSN 001-1 as outlined in Section 10 of "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" (EPA 821-R-02-014). The Permittee shall submit reports for chronic testing required by sections 5, 6, and 7 of this permit to the Bureau of Water Protection and Land Reuse, at the address in section 8(A) for review within 60 days of test completion.

(C) If this permit requires monitoring of a discharge but a discharge has not occurred within the frequency of sampling specified in the permit, the Permittee must submit the DMR and ATMR, as scheduled, indicating "NO DISCHARGE".

(D) The reporting requirements of this permit shall be in addition to any reporting required by Section 22a-430-3(j) of the RCSA.

SECTION 9: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

(A) If any sample analysis indicates that an Aquatic Toxicity effluent limitation in Section 5 of this permit has been exceeded, or that the test was invalid, the Permittee shall collect and test another sample of the effluent for Aquatic Toxicity and associated chemical parameters, as described above in Section 5, Section 6, and Section 7, and the Permittee shall report the results to the Bureau of Materials Management and Compliance Assurance (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid test. The Permittee shall also report the results to Aquatic toxicity as specified in Section 8 Paragraph (B) above. Results of all tests, whether valid or invalid, shall be reported.

(B) If any two consecutive test results or any three test results in a twelve month period indicates that an Aquatic Toxicity Limit has been exceeded, the Permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report to Bureau of Water Protection and Land Reuse (Attn: Aquatic Toxicity) for the review and approval of the Commissioner in accordance with section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity

reduction and the Permittee shall comply with any schedule approved by the Commissioner regarding toxicity reduction.

(C) The Permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within 72 hours and in writing within thirty days of the discharge of any substance listed in the application but not listed in the permit if the concentration or quantity of that substance exceeds two times the level listed in the application.

SECTION 10: COMPLIANCE SCHEDULE

(A) The Permittee shall conduct or continue to conduct biological studies of the supplying and receiving waters. The scope of such studies shall include intertidal and subtidal benthic communities, finfish communities, entrained plankton, lobster populations and winter flounder populations in accordance with the provisions of (1), (2) and (3) of this subsection as follows:

(1) On or before September 30th of each calendar year, the Permittee shall submit for the Commissioner's review and written approval a scope of study relating to the continuation of biological studies for the next year. The annual scope of study shall include but not be limited to the following:

(a) an outline of studies and monitoring to be conducted during the next year;

(b) a description of any other related entrainment and impingement mortality monitoring and studies planned or underway;

(c) a summary of any proposed changes in research or monitoring from the previous year.

(2) On or before July 31st of each calendar year, the Permittee shall submit for the review of the Commissioner a detailed report (Annual Ecological Report) of the results of biological studies conducted based on the approved scope of work for the previous calendar year.

(3) In conjunction with the above, the Permittee shall maintain an electronic data base of the comprehensive time series of all data collected in association with these biological studies and that such data, or subsets of data, will be made available in an agreed upon electronic format within thirty (30) days following a written request for such data from the Department.

(B) For the duration of this permit, the Permittee shall ensure that all planned spring refueling outages for Unit 2 and Unit 3 at MPS occur between April 4th and May 14th ("the designated period") of the calendar year. Notwithstanding the foregoing, if Force Majeure events as described in Section 10(W) occur, planned spring refueling outages for either Unit 2 or Unit 3 may occur sometime other than the designated period, although the Permittee shall take all reasonable steps to conduct planned spring refueling outages between April 4th and May 14 of the calendar year, even if Force Majeure events occur. If Force Majeure events occur that will result in the Permittee not being able to conduct planned spring outages within the designated period, the Permittee shall notify the Commissioner in writing pursuant to 10(W), describing fully the event that occurred and explaining in detail the reason for not being able to conduct spring refueling outages during the designated period, including all steps taken to try and conduct planned spring refueling outages within the designated period.

(C) <u>Cooling Water Intake Flow Limits:</u>

(1) Effective from the issuance of this permit up to and including December 31, 2010, the Permittee shall comply with the intake flow limits in Table 1:

Table 1: INTAKE FLOW LIMITS ON OR BEFORE DECEMBER 31, 2010

Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined, except during the Interval in calendar years 2008 and 2010	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2008 (Unit 2 planned spring refueling outage)	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2010 (Unit 3 planned spring refueling outage
2,190.0 mgpd	1,861.5 mgpd	1,642.5 mgpd
Remarks: "mgpd" means million gallons per day. "intake flow limit (average)" means taking the average of all of the total daily flows taking into account each day of the Interval. "intake flow" means the amount of water that may be withdrawn from Niantic Bay for cooling water purposes for the operation of Unit 2 and Unit 3 at MPS. "Interval" means from April 4th to May 14th or the first day after May 14th when the intake water temperature reaches 52 degrees F, whichever is later, but in no event later than June 5th.		

(2) Effective January 1, 2011, the Permittee shall comply with the intake flow limits in Table 2.

Table 2: INTAKE FLOW LIMITS ON OR AFTER JANUARY 1, 2011

Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined except during the Interval for the calendar years described in this table	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2011 and every three (3) calendar years thereafter (Unit 2 planned spring refueling outage)	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2012 and every three (3) calendar years thereafter (no planned spring refueling outage)	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2013 and every three (3) calendar years thereafter (Unit 3 planned spring refueling outage)
2,190.0 mgpd	1,270.2 mgpd†	1,467.3 mgpd†	1,095.0 mgpd*†
Remarks: "mgpd" means million gallons per day. "intake flow limit (average)" means taking the average of all of the total daily flows taking into account each day of the Interval. "intake flow" means the amount of water that may be withdrawn from Niantic Bay for cooling water purposes for the operation of MPS. "Interval" means from April 4th to May 14th or the first day after May 14th when the intake water temperature reaches 52 degrees F, whichever is later, but in no event later than June 5th. *If Force Majeure events as described in Section 10(W) interfere with the anticipated Unit 3 refueling outage scheduled for calendar year 2013 and every three (3) calendar years thereafter, the cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in such calendar year shall be 1,270.2 mgpd. †For the period beginning May 14th to June 5th, or until the water temperature as measured at the inlet to the Unit 2 and Unit 3 cooling water intake structures reaches 52 degrees F, whichever is sooner, the average of all of the total daily flows for each day of this period for Unit 2 and Unit 3 combined shall not exceed 1467.3 mgpd.			

(3) Subject to the Commissioner's written approval, if the Permittee establishes that implementation of the Variable Frequency Drives and any planned spring refueling outages cannot achieve compliance with the flow reductions set forth in Table 2 of this paragraph, the Permittee may implement additional entrainment mitigation technologies, operating controls and other measures beyond those authorized by the terms and conditions of this permit which, in combination with the Variable Frequency Drives and any spring refueling outages, provide an equivalent amount of entrainment reduction as the flow limitations specified in Table 2 of this paragraph would provide during the most productive period of winter flounder spawning (i.e. optimal spring winter flounder larval entrainment season: April 4th through May 14th). The Permittee shall not implement any such additional technology, operating controls or measures beyond those authorized by the terms and conditions of this permit until either: (a) the Commissioner notifies the Permittee in writing that a permit modification is unnecessary; or (b) if in the Commissioner's judgment the activity would result in a discharge or a cumulative intake flow beyond the terms and conditions of this permit and require a modification of this permit in accordance with R.C.S.A. Sections 22a-430-4(g) and 22a-430-4(p). Nothing in this paragraph shall excuse compliance with Sections 22a-430-3(i), 22a-430-4(g) and 22a-430-4(p).

(4) The Permittee shall submit, each July 31st of the calendar year, an Annual Ecological Report. Such report shall include, among other things, a complete and thorough description of all work undertaken for the implementation of flow reduction and/or entrainment mitigation technologies, operational methods or other measures undertaken in the previous calendar year. Such report shall include flow monitoring data and/or other measurements as necessary to demonstrate compliance with the entrainment reduction performance standards in effect as described above including a calculated estimate of the reduction in entrainment of larval winter flounder achieved.

(5) Variable Frequency Drives: The Permittee shall design, acquire, construct, install, operate and maintain variable condenser cooling water flow technology ("variable frequency drives") to comply with the flow limits established in Table 2, above, in accordance with the following:

(a) On or before December 31, 2008, the Permittee shall submit to the Commissioner:

(i) a detailed schedule for the design, acquisition, construction, installation, operation, and maintenance of variable frequency drives, including applying for and obtaining all permits and approvals. Any downtime of generating units to accommodate installation or maintenance shall be scheduled to coincide with otherwise necessary downtime (e.g., for refueling outages, repair, overhaul, or routine maintenance of the generating units) to the greatest extent practicable; and

(ii) a list of all permits and approvals required for the construction, installation, operation and maintenance of such variable frequency drives, including but not limited to any permits required under sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes.

(b) Beginning December 31, 2008, and continuing quarterly thereafter until the actions taken to comply with Section 10(C) have been completed, the Permittee shall submit to the Commissioner quarterly status reports. The status reports shall describe the progress being made since the last status report regarding the design, acquisition, construction, installation and operation of the variable frequency drives. Status reports shall include, but not be limited to, a detailed description of progress made by the Permittee in performing actions required by this section of the permit including, but not limited to, development of engineering plans and specifications, construction activity, contract

bidding, operational changes, preparation, submittal of permit applications and dates the variable frequency drives were operated during each quarterly status report period.

(c) The Permittee shall design, acquire, construct, install and have operational at MPS variable frequency drives capable of achieving compliance with the cumulative intake flow limits (average) specified in Table 2, above, no later than December 31, 2010. Within fifteen (15) days after completing such actions, the Permittee shall certify to the Commissioner in writing that the variable frequency drives required by and compliant with the terms and conditions of this permit have been installed and are operational at MPS.

(d) Notwithstanding 10(C)(5)(c), contingent upon obtaining all necessary permits and authorizations pursuant to 10(C)(5)(a)(ii) above, the Permittee shall use diligent efforts to construct and install variable frequency drives at Unit 2 during its planned Fall 2009 refueling outage and to operate the variable frequency drives during the Interval in calendar year 2010. The Permittee shall use diligent efforts to install variable frequency drives at Unit 3 during its planned Spring 2010 refueling outage.

(e) On or before July 1, 2012, the Permittee shall submit for the Commissioner's review and written approval a report that, at a minimum:

(i) evaluates the efficacy of the operation of the variable frequency drives in achieving compliance with the intake flow limits described in Section 10(C) of this permit;

(ii) evaluates, based upon experience acquired by the Permittee in the first year of operation of the variable frequency drives, whether such variable frequency drives, individually or in combination with other existing operational measures, are capable of extending the duration of the flow reductions beyond the Interval at Unit 2 and Unit 3 at MPS;

(iii) recommends any further evaluation to determine whether such variable frequency drives, individually or in combination with other existing operational measures, are capable of extending the duration of the flow reductions beyond the Interval at Unit 2 and Unit 3 at MPS; and

(iv) provides a schedule for the performing the further evaluation.

(D) The Permittee shall undertake a study to examine, in a laboratory setting, the efficacy of fine-mesh screens to reduce entrainment of winter flounder larvae in accordance with the approved scope of study and schedule submitted in correspondence D17445 dated April 30, 2003, from Dominion Nuclear Connecticut, Inc. to the Department and revised in a submittal (D17518) received on November 20, 2003.

(E) On or before December 1, 2008, the Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough report that describes its findings on the study performed in accordance with Section 10(D) of this Permit. The feasibility of implementing fine mesh screen technologies at the Unit 2 and Unit 3 cooling water intake structures at MPS will be part of the evaluation to be conducted pursuant to Section 10(K).

(F) On or before ninety (90) days after the issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval a scope of study that defines the Permittee's role and commitment for its participation during the tenure of a Nitrogen Work Group established by the Department to review and evaluate nitrogen loading and management in the Niantic River. The scope of study shall also include a substantive plan and schedule of investigations to be conducted by the Permittee or by

funding a mutually acceptable outside party, contributory and complementary to studies and monitoring identified by the Work Group, and endorsed by the Work Group, which may include but not be limited to:

(1) Monitoring of ambient nitrogen concentrations in the Niantic River and other environmental conditions relevant to water quality in the Niantic River;

(2) Identification of the sources of nitrogen to the Niantic River;

(3) Quantification of the load of nitrogen to the Niantic River from human and natural sources;

(4) A qualitative assessment regarding the degree to which nitrogen impacts eelgrass bed health or dissolved oxygen conditions in the Niantic River;

(5) An estimate of nitrogen loads to the Niantic River that would be consistent with a healthy eelgrass condition; and

(6) Providing assistance in evaluation of categorical management actions that would help reduce nitrogen loads to the Niantic River.

Note: Nitrogen Work Group will be drawn from the following organizations: DEP - Bureau of Water Protection and Land Reuse - Planning and Standards Division, Office of Long Island Sound Programs and Marine Fisheries Division; U.S. EPA- Office of Research and Development, Narragansett Bay- Rhode Island; University of Connecticut - Avery Point and/or Stamford Campuses; US Fish and Wildlife Service; US Geological Survey; Dominion Nuclear Connecticut, Inc.; and others deemed necessary by the DEP.

(G) In accordance with a schedule adopted by the Nitrogen Work Group, the Permittee shall make available all data collected pursuant to Section 10(F) above and contribute to a final report prepared under the auspices of the Nitrogen Work Group, which provides a comprehensive and thorough analysis of the Permittee's activities and accomplishments in the Nitrogen Work Group effort. The Permittee shall also make reference to these activities, and incorporate a summary of those activities, in its comprehensive Annual Ecological Report of environmental studies to the DEP.

(H) On or before 180 days after the issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval a scope of study on the feasibility of augmenting natural reproduction of the Niantic River population of winter flounder by transplanting pre-spawn winter flounder collected from other areas of Long Island Sound or Block Island Sound to the Niantic River or by other alternative augmentation measures. The scope of study may be based on similar experiences with winter flounder in the U.S. or related species in the U.S. or worldwide. The scope of study shall include a substantive plan and schedule for conducting the investigation including but not limited to the following:

(1) The feasibility of hiring commercial fishermen to catch and hold live fish from eastern Long Island Sound or Block Island Sound and transplanting these fish to the Niantic River;

(2) Compensating commercial fishermen to return to the water any winter flounder taken in proximity to Niantic Bay in order to maximize survival of Niantic origin fish;

(3) The specific time period for transplanting pre-spawn winter flounder to maximize the benefits to the Niantic River population;

(4) The size range, sex ratio and number of fish required to be transplanted to enhance year class strength;

(5) The mechanisms by which transplanted fish could be retained in Niantic River and/or methods by which the percentage of transplanted fish remaining to spawn in the River will be determined;

(6) Means of reducing egg loss due to predation if transplanted fish are penned; and

(7) A discussion of the potential benefits to the Niantic River populations based on similar efforts in the U.S. or world-wide in transplanting winter flounder or related species.

(I) The Permittee shall perform the study described in Section 10(H) above in accordance with the written scope of study and schedule approved in writing by the Commissioner. The Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough report developed in accordance with the approved scope of study which describes in detail the investigation performed and includes but is not limited to the following:

(1) The feasibility of transplanted fish staying in the Niantic River versus straying into Long Island Sound;

(2) The potential impact of the transplant program on the survival of young-of-year fish, including an evaluation of potential causes of mortality that might prevent the formation of a strong year class of juveniles and recommendations for enhancing survival;

(3) The potential for a transplant program to provide a meaningful contribution to stock abundance in the Niantic River;

(4) The potential for the "contributing stock" (donor stock) to be impacted by removal of pre-spawn individuals for transplant to the Niantic River; and

(5) a recommendation, as appropriate, for a pilot demonstration project to determine the feasibility and long term efficacy of a full-scale winter flounder stock augmentation program for the Niantic River population.

(J) On or before 365 days after the issuance of this permit, the Permittee shall submit for the review and written approval of the Commissioner, a report that evaluates the following winter flounder population dynamics and impact assessment modeling issues:

(1) Examination of projected trends (1960 - 2045) in flounder female spawning biomass in the Stochastic Population Dynamics Model (SPDM) under several scenarios in future (2005 - 2045) projections, including fishing mortality rates (F) including 0.20 through 0.50 at 0.10 increments coupled with conditional entrainment mortality (f) rates of 0.20 through 0.60 at 0.10 increments for Unit 2 operation through 2035 and Unit 3 through 2045;

(2) Examination of the potential array of factors in the Extended Ricker Model, including depensation, that might account for the persistent over-prediction of adult female spawners to the Niantic River stock from 1995 to 2002, according to the DEP Marine Fisheries Division Report of June 18, 2003; and

(3) Provide a discussion as to why annual mean February water temperatures from 1978 to 2001 were inversely related (P, 0.05) to both female adult recruitment and age 1 recruitment from those year-classes, but were statistically independent to larval and juvenile abundance indices from the same year classes, according to the DEP Marine Fisheries Division Report of June 18, 2003.

(K) Pursuant to Section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b), and Conn. Gen. Stat. § 22a-430(a), the location, design, construction, and capacity of the Unit 2 and Unit 3 cooling water intake structures at the Millstone Power Station ("MPS") shall reflect the Best Technology Available ("BTA") for minimizing adverse environmental impacts. The Commissioner has determined that the current location, design, construction and capacity of the Unit 2 and Unit 3 cooling water intake structures at MPS does not represent the BTA for minimizing adverse environmental impacts. The Commissioner has

made a determination that there have been findings that reducing cooling water intake flows through the use of closed cycle recirculation systems reflect the BTA for minimizing adverse environmental impacts. The information provided with the Permittee's application identified reducing cooling water intake flows through the use of closed cycle recirculation systems as the most effective technology to minimize adverse environmental impacts. This identification was based upon the technologies that exist and not on an evaluation of whether any particular technology can be implemented for the Unit 2 and Unit 3 cooling water intake structures at MPS. To determine the BTA that can be implemented for the Unit 2 and Unit 3 cooling water intake structures at MPS, the Permittee shall perform an evaluation in accordance with the following:

(1) On or before December 15, 2008 the Permittee shall submit for the Commissioner's review and written approval a proposed scope of study and schedule for a detailed and comprehensive evaluation of all technological and operational measures, individually or in combination ("measures"), for minimizing adverse environmental impacts associated with the use of the Unit 2 and Unit 3 cooling water intake structures at MPS ("Study"). At a minimum, the scope of study shall include a proposal for:

(i) identifying all measures to be evaluated that are available to minimize adverse environmental impacts from impingement mortality and entrainment for the Unit 2 and Unit 3 cooling water intake structures at MPS, including but not limited to all fine-mesh screen technologies and closed-cycle recirculation systems. The evaluation of closed-cycle recirculation systems shall include but not be limited to closed-cycle recirculation systems that are capable of limiting the maximum cumulative daily intake flow to not more than 219 million gallons per day, or achieving a ninety percent (90%) or greater reduction in impingement mortality and entrainment from the calculation baseline derived pursuant to Sections 10(O) to 10(R), inclusive, below for Unit 2 and for Unit 3 at MPS;

(ii) including a narrative description of the design and operation of each of the measures to be evaluated, the reasons for selecting each of the measures to be evaluated, the information used to demonstrate the performance of each of the measures, and whether or not each of the measures is in use at other facilities;

(iii) identifying measures for which a detailed and comprehensive evaluation will not be performed. This shall include a detailed description of the proposed criteria and rationale for not fully evaluating a measure;

(iv) identifying all permits, licenses or approvals required for constructing, implementing and operating each of the measures, including but not limited to any permits required under Sections 22a-32, 22a-42a, 22a-342, 22a-361, 22a-368 or 22a-430 of the Connecticut General Statutes;

(v) identifying the level of preliminary design and engineering calculations, drawings and estimates to be prepared by a professional engineer licensed in Connecticut, for each of the measures to be fully evaluated, sufficient to determine whether such measures can be implemented at MPS;

(vi) identifying all known or potential biological, chemical and environmental impacts from each of the measures to be evaluated, including but not limited to the waters of the state and to air quality. The proposal shall also include a detailed description of the proposed method for measuring such impacts and proposals to minimize such impacts to the extent practicable;

(vii) estimating the cost for installing and operating each of the measures to be evaluated for the purposes of evaluating the cost effectiveness of such measures;

(viii) identifying impacts, including costs and reliability, that each of the measures to be evaluated will have on Connecticut's electrical supply grid or other energy impacts and proposals to minimize such impacts to the extent practicable;

(ix) identifying siting, seismic, geologic and hydrologic impacts that each of the measures will have at MPS and proposals to minimize such impacts to the extent practicable;

(x) a proposed schedule for the design, construction, installation and operation of each of the measures to be evaluated. Any downtime of generating units to accommodate construction, installation or maintenance shall be scheduled to coincide with otherwise necessary downtime (e.g., for repair, overhaul, or routine maintenance of the generating units) to the greatest extent practicable. Where additional downtime is required, the Permittee may propose coordinating scheduling of this downtime with regulatory or other entities to ensure that impacts to electric reliability and supply are minimized;

(xi) identifying the energy efficiency of each of the measures to be evaluated;

(xii) identifying any conflicts with all plant safety and human health and safety requirements established by the Nuclear Regulatory Commission (NRC) or any other state or federal agency associated with the measures to be evaluated. With respect to any such conflict, the scope of study shall include a proposal to describe in detail the safety requirement at issue, the legal or other basis for the requirement; and all attempts that have or will be taken to resolve any such conflict;

(xiii) a comprehensive evaluation, including supporting documentation, of the constraints or impediments that preclude the implementation of each of the measures evaluated. Such evaluation shall include all federal or state safety or other direct conflicts, engineering or locational constraints, energy impacts and any other constraints or impediments that preclude the implementation of such measures;

(xiv) calculating the reduction in impingement mortality and entrainment of all life stages of fish and shellfish that would be achieved by each of the measures evaluated. In proposing to calculate any such reduction, the Permittee shall assess the total reduction in impingement mortality and entrainment against the calculation baseline determined in accordance with the Impingement Mortality and Entrainment Characterization Study;

(xv) for any impacts or impediments related to the implementation of any measures described in sections 10(K)(1)(i) through (xiii), propose measures to the extent practicable to minimize the environmental impacts or impediments.

(Unless clearly specified otherwise in the Scope of Study, the requirements of subdivisions (i) to (xv), inclusive, shall apply to each measure to be evaluated).

(L) The Commissioner may approve the Scope of Study as submitted or with such conditions or modifications that the Commissioner deems necessary or if the Scope of Study does not comply with the requirements of this Permit, the Commissioner may deny approval of the Scope of the Study. The Permittee shall perform the evaluation in accordance with the Scope of Study and schedule approved by the Commissioner pursuant to Section 10(K) and submit for the Commissioner's review and written approval a thorough comprehensive report by no later than January 20, 2012. If the Commissioner approves the Scope of Study after March 31, 2009 then the Permittee shall have two years and ten months from the date of approval of the Scope of Study to perform the evaluation and submit a thorough and comprehensive report. The report shall, at a minimum, (i) address in a comprehensive manner the issues in the Scope of Study approved by the Commissioner pursuant to Section 10(K); (ii) describe in detail the findings of its evaluation; and (iii)

include a recommendation of the preferred measure for installation at MPS in accordance with the findings of the evaluation.

(M) If the evaluation performed by the Permittee pursuant to Section 10(L) does not fully evaluate whether a measure can be implemented at MPS or provide information on a measure to the satisfaction of the Commissioner, the Permittee shall provide any additional information requested by the Commissioner in accordance with a supplemental plan and schedule approved in writing by the Commissioner. Unless otherwise specified in writing by the Commissioner, the supplemental plan and schedule shall be submitted for the Commissioner's review and written approval on or before thirty (30) days after notice from the Commissioner that such plan and schedule is required.

(N) On or before September 30, 2008, the Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough scope of study, including a proposed schedule for completion, for performing an Impingement Mortality and Entrainment Characterization Study to provide information to characterize current impingement mortality and entrainment and to support the development of a calculation baseline based on actual operations for evaluating impingement mortality and entrainment associated with the cooling water intake structures in use for Unit 2 and Unit 3 at MPS. In addition, this information shall also be incorporated as a separate part of the scope of study required by Section 10(K). The scope of study shall include a proposal for providing all of the necessary details to accurately characterize impingement mortality and entrainment associated with MPS operations including but not limited to the following :

(1) a proposal to calculate baseline levels for impingement mortality and entrainment that are occurring with the existing once through cooling water intake structures in use for Unit 2 and Unit 3 at MPS without including any structural or operational controls, including but not limited to flow or velocity reductions, implemented in whole or in part for the purposes of reducing impingement mortality and entrainment;

(2) taxonomic identifications of all life stages of fish and shellfish (including macrocrustaceans, molluscs and horseshoe crabs), as well as any other species that are protected under federal or state law (including, but not limited to, threatened or endangered species and species of special concern identified in Conn. Agencies Regs §§ 26-306-4 to 22a-306-6, inclusive) in the vicinity of the cooling water intake structure(s) for Unit 2 and Unit 3 at MPS that are susceptible to impingement and entrainment. All taxonomic identifications will differentiate those species previously identified in prior studies from those species not previously identified in prior studies;

(3) a characterization of all life stages of fish and shellfish (including macrocrustaceans, molluscs and horseshoe crabs), as well as any other species that are protected under federal or state law (including, but not limited to, threatened or endangered species and species of special concern identified in Conn. Agencies Regs §§ 26- 306-4 to 22a-306-6, inclusive), including but not limited to, a description of the abundance and temporal and spatial characteristics in the vicinity of the cooling water intake structure(s) for Unit 2 and Unit 3, based on data, including data acquired from a minimum of two (2) years of new field studies or as otherwise deemed acceptable by the Commissioner, to sufficiently characterize annual, seasonal, and diel variations (taking into account the spring-neap tidal cycle) in impingement mortality and entrainment. All characterizations will differentiate those species previously identified in prior studies from those species not previously identified in prior studies. In providing this characterization the Permittee may propose to include previous study or data characterizing: (1) impingement mortality and entrainment at MPS; (2) the physical and biological conditions in the vicinity of the cooling water intake structures for Unit 2 and Unit 3; provided that the study or data were collected using appropriate quality assurance/quality control procedures, and that any such study or data are representative of the current operation of MPS and of biological conditions at and in the vicinity of MPS, or are otherwise relevant to the proposed Impingement Mortality and Entrainment Characterization Study. In addition, the Permittee shall propose to make available, if requested by the Commissioner, any data study listed or referred to pursuant to this paragraph;

(4) documenting the current impingement mortality and entrainment of all life stages of fish and shellfish (including macrocrustaceans, molluscs and horseshoe crabs), as well as any other species that are protected under federal or state law (including, but not limited to, threatened or endangered species and species of special concern identified in Conn. Agencies Regs §§ 26-306-4 to 22a-306-6, inclusive). Such documentation will differentiate those species previously identified in prior studies from those species not previously identified in prior studies. To put sampling results in context, any proposal shall indicate what impingement mortality and entrainment data currently exist and shall propose a method for considering the relationship between the existing data and the new data to be gathered as well as considering the relationship between impingement mortality and entrainment and current and historical abundance of species in question;

(5) a sampling plan for a minimum of two (2) years or as otherwise deemed acceptable by the Commissioner of new field studies the Permittee proposes to conduct in order to ensure that the Permittee has sufficient data to develop a scientifically valid estimate of impingement mortality and entrainment. Any proposed sampling plan shall provide for year round sampling including, but not limited to, entrainment sampling when species are likely to be entrained. Any proposed sampling plan shall include an explanation of the reasons for the sampling plan. Any proposed sampling plan shall further include all methods and quality assurance/quality control procedures for sampling and data analysis. The sampling and data analysis methods proposed shall be valid for a quantitative survey and shall include consideration of the methods used in other studies performed in Long Island Sound in the vicinity of MPS. The proposed sampling plan shall include a description of the study area (including the area of influence for the cooling water intake structures for Unit 2 and Unit 3), provide a taxonomic identification of the sampled or evaluated biological assemblages (including all life stages of fish and shellfish) and shall ensure that samples are collected during periods of representative operational flows for the cooling water intake structure for Unit 2 and Unit 3 and the flows associated with any such proposed samples. Environmental and operational factors (e.g., the flow rate, temperature, salinity and weather) shall be recorded during entrainment and impingement monitoring. The raw data generated during sampling, in full and in summary, shall be provided to the Department in hard copy and in a usable electronic format, and any proposed sampling plan shall include a proposal for making the data available;

(6) a proposal on how naturally moribund fish and shellfish that enter the cooling water intake structure for Unit 2 and Unit 3 would be identified and taken into account in assessing each measure evaluated;

(7) an evaluation of low pressure fish spray wash technology and the feasibility of installing such technology in the Unit 2 intake structure, if necessary, to reduce impingement mortality; and

(8) any other information necessary to characterize impingement mortality and entrainment at MPS.

(O) The Commissioner may approve the Scope of Study as submitted or with such conditions or modifications that the Commissioner deems necessary or if the Scope of Study does not comply with the requirements of this Permit, the Commissioner may deny approval of the Scope of the Study. The Permittee shall perform the study described in Section 10(N) in accordance with the Scope of Study and schedule approved by the Commissioner, in writing, and submit for the Commissioner's review and written approval a comprehensive and thorough report by no later than July 29, 2011. If the Commissioner approves the Scope of Study after December 31, 2008, then the Permittee shall have two years and seven months from the date of approval of the Scope of Study to perform the evaluation and submit a thorough and comprehensive report. The study shall, at a minimum, address in a comprehensive manner the issues in the Scope of Study approved by the Commissioner pursuant to this subsection. In addition, this study shall also be incorporated as a separate part of the report submitted pursuant to Section 10(L).

(P) If the study performed by the Permittee pursuant to Section 10(O) does not fully evaluate the baseline impingement mortality and entrainment impacts for the MPS Unit 2 and Unit 3 cooling water intake structures, the Permittee shall provide additional information in accordance with a supplemental plan and schedule approved in writing by the Commissioner. Unless otherwise specified in writing by the Commissioner, the supplemental plan and schedule shall be submitted for the Commissioner's review and written approval on or before thirty (30) days after notice from the Commissioner that such plan and schedule is required.

(Q) On or before January 1 and July 1 of each calendar year following the issuance of this Permit, and continuing until all actions required by Sections 10(K) to 10(P), inclusive, of this permit have been completed as approved to the Commissioner's satisfaction, the Permittee shall submit progress reports to the Commissioner describing the status of the actions the Permittee has undertaken pursuant to Sections 10(K) to 10(P), inclusive, of this permit:

(1) Each progress report shall summarize activities initiated, in progress, and/or completed by the Permittee during the preceding six (6) month period, including a summary of the Permittee's progress towards achieving the interim milestones identified in 10(Q)(2) below;

(2) Upon completion of the following individual interim milestones in accordance with the schedule below, the Permittee shall submit an interim milestone report to the Commissioner providing a summary of the interim milestone completed and attaching the listing resulting from achievement of the interim milestone. For interim milestones 10(Q)(2) (ii-v), the summary shall include a detailed explanation of the reasons for proceeding or not proceeding with each of the technological and operational measures identified in the listing. Any explanation of the reasons for proceeding or not proceeding with each of the technological and operational reasons identified in such listing shall identify any relevant considerations delineated in 10(K)(1) above:

(i) within ninety (90) days of the approval of the Scope of Study pursuant to 10(L), a listing of all technological and operational measures to be initially screened as part of the study to be performed pursuant to Section 10(K)(1) above;

(ii) within nine (9) months of the submittal pursuant to 10(Q)(2)(i) above or upon the submittal of additional information requested by the Commissioner pursuant to 10(Q)(5), whichever is later, a listing, based on the initial screening process described in the Scope of Study, of all technological and operational measures for which further screening will be performed;

(iii) within nine (9) months of the submittal pursuant to 10(Q)(2)(i) above or upon the submittal of additional information requested by the Commissioner pursuant to 10(Q)(5), whichever is later, a listing, based on the initial screening process described in the Scope of Study, of all technological and operational measures for which further screening will not be performed;

(iv) within nine (9) months of the submittal pursuant to 10(Q)(2) (ii) and (iii) above or upon the submittal of additional information requested by the Commissioner pursuant to 10(Q)(5), whichever is later, a listing of all technological and operational measures for which a detailed and comprehensive evaluation will be performed pursuant to Section 10(K)(1)(i) above and the screening process described in the Scope of Study; and

(v) within nine (9) months of the submittal pursuant to 10(Q)(2) (ii) and (iii) above or upon the submittal of additional information requested by the Commissioner pursuant to 10(Q)(5), whichever is later, a listing of all technological and operational measures for which a detailed and comprehensive evaluation will not

be performed pursuant to Section 10(K)(1)(iii) above and the screening process described in the Scope of Study.

(3) The Permittee may propose alternate interim milestone dates to the Department for the Commissioner's review and approval. Any such request shall provide an explanation of the reasons for proposed changes to the interim milestone dates. Any change in interim milestone dates shall not change the dates specified in Sections 10(L) and (O). Any such request for a change in an interim milestone date shall not be treated as an interim compliance date or a notification of noncompliance pursuant to Section 10(W) and (Y) of this Permit;

(4) All progress reports and attachments shall be provided by the Permittee for the sole purpose of informing the Commissioner of the Permittee's progress towards performing the tasks specified by the Scopes of Study pursuant to Sections 10(K) and 10(N). The review to be conducted by the Commissioner pursuant to Section 10(R) below shall be based solely on the submittals made by the Permittee pursuant to Section 10(L), 10(M), 10(O) and 10(P) above; and

(5) If a specific report submitted pursuant to this section 10(Q) does not inform the Commissioner to the Commissioner's satisfaction of the Permittee's progress toward performing the tasks specified in this paragraph 10(Q), upon written request by the Commissioner, the Permittee shall submit the additional information requested by the Commissioner.

(R) Based upon the Commissioner's review and consideration of all the information included in the reports submitted pursuant to Sections 10(L) and 10(O), any supplemental information provided pursuant to Sections 10(M) and 10(P), any other information and any subsequent law or regulation that is in effect at such time, the Commissioner shall make a subsequent BTA determination, consistent with Section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b), and Conn. Gen. Stat. § 22a-430(a), that requires the Permittee to implement measures that reflect the BTA for the Unit 2 and Unit 3 cooling water intake structures at MPS to minimize, to the greatest extent, adverse environmental impacts. The Commissioner shall provide notice of such determination and modifications to this permit to implement any requirement associated with this subsequent BTA determination, through a permit proceeding, including public notice and an opportunity for a public hearing.

(S) On or before 120 days after chemical cleaning and/or chemical decontamination of the facilities Unit 2 or Unit 3 Steam Generators discharge(s) has been initiated, the Permittee shall sample and analyze the final effluent and use the analytical results to complete Attachment 0 of the Permit Application, Table 1, Table 2 (metal, phenols and cyanide) and Table 3 (constituents known or suspected present) and submit the attachment to the Commissioner for review.

(T) On or before January 31 of each calendar year the Permittee shall submit to the Commissioner an administrative report summarizing all discharges that have been redirected to an alternative pathway, as authorized under Section 4(H) of this permit, within the previous twelve month period. The report shall list the date, volume, and location of the redirected discharges. The report shall indicate which one of the factors listed in Section 4, paragraph (H) of this permit, precipitated the redirection of any discharge to an alternative location. In addition, the report shall summarize any violations of the effluent limitations specified within this permit for this category of discharges.

(U) On or before ninety (90) days after the issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval, a scope of study and schedule to evaluate changes in the outfall structure to further minimize the areal extent of the thermal zone of influence, the pooling of undiluted thermal effluent adjacent to the discharge and the incidence of fish migration into the quarry associated with reduced flow velocity. This scope of study shall include a proposal to perform modeling of the thermal plume and a schedule to perform field temperature measurements coincident with adjustments to the outfall release cross-sectional area of the quarry cuts.

(V) The Permittee shall perform the study described in Section 10(U) above in accordance with the scope of study and schedule approved in writing by the Commissioner. The Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough report describing the results of the study, including but not limited to thermal plume mapping reflecting current and alternative outfall release cross-sectional areas. The thermal plume mapping shall include, at a minimum:

(1) a map of the nearfield area, circumscribed by a radial distance of 2,000 feet extending outward from the location of the Quarry Cut Discharge (DSN001-1) into the receiving water body, at a scale of no greater than 100 feet per inch, delineating eel grass beds, lobster habitat and other shellfish areas. Such map shall also delineate the location of any watercourses, discharges, intakes, designated tidal wetlands, shellfish beds, and structural features such as bridges and culverts; and

(2) thermal isotherms delineating the areal extent of the plume equivalent to a delta T of 1.5°F and a maximum temperature of 83°F. Isotherms shall be labeled for both maximum temperature and maximum temperature increase beginning at the quarry cut and at delta 1.5 °F intervals for summer months and delta 4°F for other seasons. Isotherms should be labeled from point of discharge until the thermal component of that plume has been reduced to ambient temperatures. Nearfield temperature increases should be well documented to determine the localized effect of high temperature discharges.

(3) Plots of the depth of water below the thermal plume depicted as the difference between water depth and the depth of the thermal plume such that vertical zones of fish passage below the plume and locations to where the plume extends to the bottom can be quantified.

This report shall include recommendations to modify the current mixing zone and quarry cut cross-sectional area if warranted based on the results of the field measurements. The report shall also include a detailed schedule to implement all approved recommendations at MPS.

(W) Force Majeure.

(1) "Force Majeure" is defined for the purposes of this permit as an event arising from causes beyond the control of the Permittee and of any entity controlled by the Permittee, including but not limited to Permittee's contractors and subcontractors, that could not have been avoided or overcome by due diligence and that delays or prevents the performance of any obligation under this permit specified as subject to "Force Majeure". "Force Majeure" shall include, but shall not be limited to, acts of God including floods, blizzards, hurricanes, and other extreme weather; labor strikes; fires; judicial orders; failure of a permitting authority to grant the necessary permit or authorization where the Permittee has taken all necessary steps to obtain the permit or authorization; orders or directives by governmental officials or ISO New England that direct the Permittee to operate MPS to supply electricity; failure of a permitting authority, including but not limited to the ISO New England's or the U.S. Nuclear Regulatory Agency's failure to grant the Permittee's request for an outage to permit installation of technology; and adjustments to the refueling outage cycle due to unanticipated extended mid-cycle outages resulting from large equipment failures. "Force Majeure" does not include unanticipated or increased costs, changed financial circumstances or non-attainment of the requirements of this permit. For the purposes of this paragraph, the Permittee shall use all diligent and reasonable efforts to fulfill its obligation including efforts by the Permittee to anticipate any potential Force Majeure event and to address the effects of any such event (a) as it is occurring and (b) after it has occurred such that the delay is minimized to the greatest extent possible.

(2) To the extent not otherwise required by regulation, when circumstances occur that the Permittee believes constitutes a Force Majeure event, the Permittee shall notify the Commissioner orally of the circumstances within three (3) business days after the Permittee first becomes aware of those

circumstances. Within seven (7) days after the Permittee first becomes aware of such circumstances, the Permittee shall supply to the Commissioner in writing an explanation of the causes(s) of any actual or expected delay, the anticipated duration of any delay, the measures taken and to be taken by Permittee to prevent or minimize the delay, and the timetable or schedule for implementation of such measures. Failure to comply with the notice provisions of this paragraph may, as determined by the Commissioner given the reason for failing to comply with the notice provision, constitute a waiver of the Permittee's rights to assert a claim of Force Majeure with respect to the circumstances in question. The Commissioner will notify the Permittee in writing of the length of the extension, if any, for performance of the obligations affected by the Force Majeure event. If the Commissioner determines that a delay is or was caused by a Force Majeure event, the time for performance will be extended by the Commissioner for such time as the Commissioner deems necessary to complete those obligations.

(3) In proceedings on any dispute regarding a delay in performance, Permittee shall have the burden of production and proof (1) that the delay is or was caused by a Force Majeure event, and (2) that the amount of additional time requested is necessary to compensate for that event.

(4) Delay in achievement of any requirement in this permit or other relevant documents shall not automatically justify or excuse delay in achievement of any subsequent or other requirement.

(X) The Permittee shall use best efforts to submit to the Commissioner all documents required by Section 10 of this permit in a complete and approvable form. If the Commissioner notifies the Permittee that any document or other action is deficient, and does not approve it with conditions or modifications, it is deemed disapproved, and the Permittee shall correct the deficiencies and resubmit it within the time specified by the Commissioner or, if no time is specified by the Commissioner, within thirty days of the Commissioner's notice of deficiencies. In approving any document or other action under this Compliance Schedule, the Commissioner may approve the document or other action as submitted or performed or with such conditions or modifications as the Commissioner deems necessary to carry out the purposes of this section of the permit. Nothing in this paragraph shall excuse noncompliance or delay.

(Y) Dates. The date of submission to the Commissioner of any document required by this section of the permit shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under this section of the permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this section of the permit means calendar day. Any document or action which is required by this section only of the permit, to be submitted, or performed, by a date which falls on, Saturday, Sunday, or, a Connecticut or federal holiday, shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or Connecticut or federal holiday.

(Z) Notification of noncompliance. Except as otherwise provided in this permit, in the event that the Permittee becomes aware that it did not or may not comply, or did not or may not comply on time, with any requirement of this section of the permit or of any document required hereunder, the Permittee shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittee shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittee shall comply with any dates that may be approved in writing by the Commissioner. Notification by the Permittee shall not excuse noncompliance or delay, and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically so stated by the Commissioner in writing.

(AA) Notice to Commissioner of changes. Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such

information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.

(BB) Submission of documents. Any document, other than a discharge monitoring report, required to be submitted to the Commissioner under this section of the permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

Charles Nezianya
Department of Environmental Protection
Bureau of Materials Management and Compliance
Assurance
Water Permitting and Enforcement Division
79 Elm Street
Hartford, CT 06106-5127

This permit is hereby issued on 9/1/2010

/S/SUSAN FECHETTE
DEPUTY COMMISSIONER

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: *Dominion Nuclear Connecticut, Inc.* ***PAMS Company ID:*** *115314*

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT #: *CT0003263* ***APPLICATION #:*** *199701876* ***FACILITY ID.*** *152-003*

Mailing Address:	***Location Address:***
Street: *Millstone Power Station* *Rope Ferry Road*	***Street:*** *Millstone Power Station* *Rope Ferry Road*
City: *Waterford* ***ST:*** *CT* ***Zip:*** *06385*	***City:*** *Waterford* ***ST:*** *CT* ***Zip:*** *06385*
Contact Name: *William D. Bartron* *Supervisor, Nuclear Licensing*	***DMR Contact*** *William D. Bartron* *Supervisor, Nuclear Licensing*
Phone No.: *(860) 447-1791*	***Phone No.:*** *(860) 447-1791*

PERMIT INFORMATION

DURATION ***5 YEAR*** _x_ ***10 YEAR*** ___ ***30 YEAR***

TYPE ***New*** _ ***Reissuance*** _x_ ***Modification***

CATEGORIZATION ***POINT (x)*** ***NON-POINT ( )*** ***GIS #***

NPDES (x) ***PRETREAT ( )*** ***GROUND WATER(UIC) ( )*** ***GROUND WATER (OTHER) ( )***

NPDES MAJOR(MA) _x_
NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI)
NPDES or PRETREATMENT MINOR (MI)

PRETREAT SIGNIFICANT INDUS USER(SIU)
PRETREAT CATEGORICAL (CIU)

COMPLIANCE SCHEDULE ***YES*** _x_ ***NO***

POLLUTION PREVENTION ___ ***TREATMENT REQUIREMENT*** __ ***WATER CONSERVATION***

WATER QUALITY REQUIREMENT __ ***REMEDIATION*** __ ***OTHER*** _x_

OWNERSHIP CODE

Private *x* ***Federal*** __ ***State*** __ ***Municipal (town only)*** __ ***Other public***

DEP STAFF ENGINEER: *Charles Nezianya/Jim Grier*

PERMIT FEES

Discharge Code	*DSN Number*	*Annual Fee*
**118000c*	*DSN 001-A*	*$8,175.00*
101060z	*DSN 001-B*	*$8,175.00*
101060z	*DSN 001-C*	*$8,175.00*
***1080000*	*Tables FW & HH*	*$2,662.50*

**Decommissioning activity related discharge(s) originating from Unit 1.*
*** Individual stormwater discharges are included in the permit.*

FOR NPDES DISCHARGES:

Drainage basin Code: *2000* ***Present/Future Water Quality Standard:*** *SA/SA*

NATURE OF BUSINESS GENERATING DISCHARGE

Electricity generation from steam produced as a result of the fission of nuclear fuel. Cooling water, stormwater and process wastewater discharges result from this activity.

Two Nuclear Electrical Generating Units (Units 2 and 3) are presently in operation.
Unit 1 has been shut down and under going decommissioning.

PROCESS AND TREATMENT DESCRIPTION (by DSN)

See detailed NPDES Fact Sheet

RESOURCES USED TO DRAFT PERMIT

_x_ ***Federal Effluent Limitation Guideline*** *40 CFR 423*
name of category

_x_ ***Performance Standards***

x ***Department File Information***

x ***Connecticut Water Quality Standards***

__ ***Anti-degradation Policy***

x ***Coastal Management Consistency Review Form***

x ***Other - Explain***

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

x	***Best Available Technology (BAT)***
x	***Best Professional Judgement (See Other Comments)***
x	***Case by Case Determination (See Other Comments)***
x	***Section 22a-430-4(s) of the Regulations of Connecticut State Agencies***
x	***In order to meet in-stream water quality (See General Comments)***
__	***Anti-degradation policy***

GENERAL COMMENTS

Water quality based discharge limitations were included in this permit for consistency with Connecticut Water Quality Standards and criteria, pursuant to 40 CFR 122.44(d). Each parameter was evaluated for consistency with the available aquatic life criteria (acute and chronic) and human health (fish consumption only) criteria, considering the zone of influence allocated to the facility where appropriate. The statistical procedures outlined in the EPA Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) were employed to calculate the limits. The most restrictive of the water quality limitations, aquatic life acute, aquatic life chronic, and human health, was compared with limitations developed according to State and Federal Best Available Technology (BAT).

OTHER COMMENTS

See NPDES Fact Sheet for additional information on the basis for limitations/conditions in the draft NPDES permit.

FACT SHEET
FOR
DOMINION NUCLEAR CONNECTICUT, INC (DNC)
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
September 1, 2010

FACILITY NAME: DOMINION NUCLEAR CONNECTICUT, INC (DNC) MILLSTONE POWER STATION (MPS)

LOCATION ADDRESS: ROPE FERRY ROAD
WATERFORD, CONNECTICUT

NPDES PERMIT No. CT0003263

FACILITY ID: 152-003

RECEIVING WATERS: LONG ISLAND SOUND

APPLICATION No. 199701876

Table of Contents

PRELIMINARY NOTE

On August 26, 2006, the Commissioner of Environmental Protection ("Commissioner") issued a notice of tentative determination to reissue a National Pollution Discharge Elimination System ("NPDES") permit to Dominion Nuclear Connecticut, Inc. ("Dominion" or "DNC") for the wastewater discharges from and the cooling water intake structures at its nuclear power facility on Rope Ferry Road in Waterford, Connecticut. In response to receipt of a petition with the necessary signatures, a public hearing was required to be held regarding this original tentative determination. Pre-hearing proceedings commenced on October 19, 2006. Before the public hearing was held, the United States Court of Appeals for the Second Circuit ("Second Circuit") issued its decision in Riverkeeper, Inc., v. EPA, 475 F. 3d 83, (2d Cir. 2007). In June 2007, before the public hearing was held, the Hearing Officer approved a request from the Department of Environmental Protection ("the Department") to suspend the proceedings so that the Department could evaluate the impact the United States Court of Appeals for the Second Circuit decision in Riverkeeper, Inc., v. EPA, 475 F. 3d 83, (2d Cir. 2007) may have on the proposed draft permit. The Hearing Officer's last Order regarding this suspension specified that the hearing process would be suspended until this second notice of a tentative determination is issued and a 30-day comment period is provided. The Department is publishing its second notice of a tentative determination to renew Dominion's NPDES permit and is providing a 30-day comment period. As such, at a future date the Hearing Officer will issue notice of the date for convening a status conference, pre-hearing processes, and establishing a date for a public hearing. Notice of the date for a public hearing will be published in The Day and posted under the Department's website. Further information about public participation, including how persons may participate in the public hearing, is provided in the public notice for this tentative determination. This public notice is published in The Day and is posted on the Department's website.

FACILITY OVERVIEW

Millstone Power Station ("MPS" or "the Station") is a nuclear power plant located on Rope Ferry Road, (CT Route 156), in Waterford, Connecticut. The plant is presently owned and operated by Dominion. MPS is a baseline electrical generating facility consisting of three units. The oldest of these, Unit 1, began operation in 1970, but was taken out of service in November 1995 and is now being decommissioned. Units 2 and 3 are pressurized water reactors that have been in operation since 1975 and 1986, respectively.

MPS is situated on the eastern Connecticut shore of Long Island Sound ("LIS") at the Millstone Point peninsula about 5 miles west-southwest of the City of New London. The property covers an area of about 500 acres at the site of an old rock quarry, and is

bounded to the west by Niantic Bay, to the east by Jordan Cove, and to the south by Twotree Island Channel *(see Figures 1 and 2).*

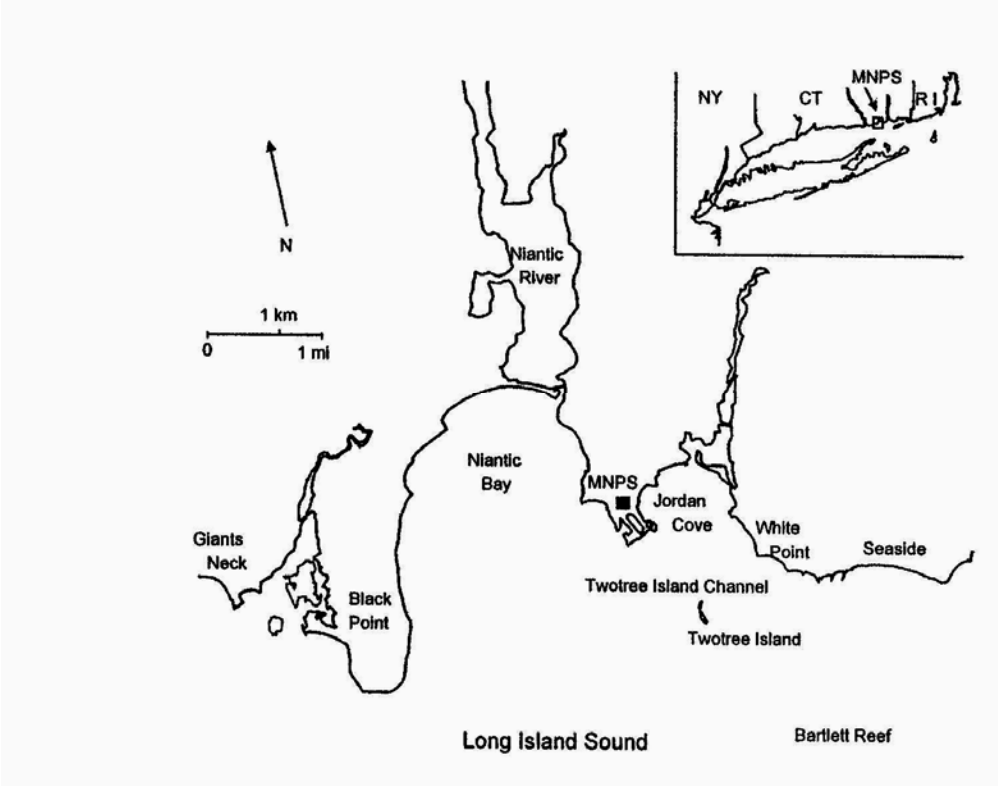

Figure 1. - Location of Millstone Nuclear Power Station and surrounding area. (Figure incorporated from DNC annual ecological report)

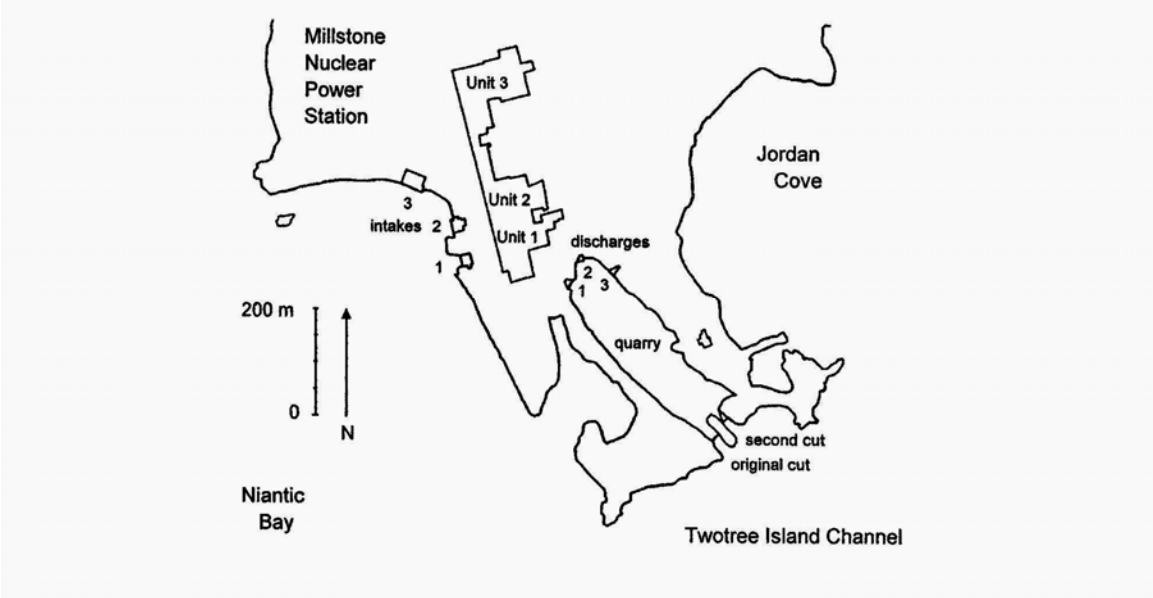

Figure 2. - The Millstone Nuclear Power Station site, showing the Unit generator/reactor buildings, cooling water intake structures, the quarry which receives the Unit discharges, and the two quarry discharge cuts to Long Island Sound. (Figure incorporated from DNC annual ecological report).

The marine environment in the vicinity Millstone Point is highly influenced by strong tidal currents that traverse the channel. Average tidal flow through the channel is approximately 900 thousand gal/sec and at maximum is about 2.2 million gal/sec. These currents provide for quick dispersion of the thermal heat load from the consolidated outfall at the quarry cut to Long Island Sound. *(DNC yearly Annual Report on Monitoring of the Marine Environment of Long Island Sound at Millstone Power Station and the DEP staff review of these reports.)*

The applicant was previously authorized to discharge approximately 2.75 billion gallons per day ("gpd") of once through non-contact condenser cooling water, plant service water, related steam electric process wastewaters and several other significantly smaller and intermittent discharges. The discharges of once through non-contact condenser cooling water, plant service water, and related process wastewaters are consolidated in underground collection tunnels constructed for each electrical generation unit. The draft permit authorizes 2,255,625,000 gallons per day of these waters and wastewaters – the vast majority of which are used for cooling purposes - to be discharged first into an on-site quarry and then through two cuts in the quarry at the southern end of Millstone Point (Latitude 41^{o}-18'-16"; Longitude 72^{o}-9'-57") into Long Island Sound in Waterford, Connecticut. Approximately 844,652,000 gallons of these waters and wastewaters come from Unit 2, while 1,410,933,000 gallons per day come from Unit 3.

The other smaller and intermittent discharges, which in the aggregate total approximately 500,000,000 gallons per day, include Unit 2 and Unit 3 intake structure screen washwaters, pump seal and bearing lubrication water, and related process wastewaters, site stormwater, groundwater, fire suppression system wastewaters and plant operating systems-related drainage. These discharges are directed to the eastern end of Niantic Bay off Millstone Point (Latitude 41^{o}-18'-30"; Longitude 72^{o}-10'-13") in Waterford, Connecticut. The draft permit also authorizes two discharges from MPS Marine Laboratory, one into the quarry before entering Long Island Sound and the second into Jordan Cove.

In addition to limits on discharges, the draft permit also limits, to 2,190,000,000 gallons per day, the amount of waters that can be withdrawn from Long Island Sound and used for cooling purposes. The waters used by the facility for cooling and other purposes are drawn, almost exclusively, from Long Island Sound. A summary of the discharges and intakes regulated under the proposed permit is provided in Table 1 attached to this Fact Sheet.

To help reduce impingement mortality and entrainment during the winter flounder spawning season, Dominion has agreed, and the new draft permit requires the installation of variable frequency drives or pumps (“VFD”) at the intake structures for both Unit 2 and 3. The VFD for unit 2 will be installed in the fall of 2009 and for Unit 3 in the spring of 2010. This technology will enable Dominion to safely reduce the amount of cooling water needed to generate electricity during the critical spring spawning season for winter flounder. This flow reduction technology will be utilized in conjunction with Unit 2 and

Unit 3 spring refueling outages, also during the spring spawning season, to reduce entrainment impacts by an average of 40 to 50 percent. The revised draft permit also requires that Dominion evaluate whether the VFDs could be used for a longer duration, beyond the spring spawning season, as a means of reducing cooling water intake flows and thereby also reducing impingement mortality and entrainment .

Also the radiological emissions from MPS, are regulated by the U.S. Nuclear Regulatory Commission ("NRC"). As such, any radiation in or associated with discharges of wastewater from MPS are regulated by the NRC.

REGULATORY BACKGROUND

The last NPDES permit issued for MPS was issued to Northeast Nuclear Energy Company, a division of Northeast Utilities, on December 14, 1992. Even though this 1992 permit had an expiration date of December 14, 1997, since a timely and sufficient renewal application was filed in June 1997, by virtue of Conn. Gen. Stat. § 4-182, this 1992 permit remains in effect until a final determination is made on the pending renewal application.

After submission of its renewal application, DEP became aware of several serious permit compliance issues at MPS, related primarily to unauthorized discharges and improper monitoring. This led to both civil and criminal enforcement proceedings by both state and federal regulatory agencies against Dominion's predecessor, Northeast Utilities. These actions were not fully concluded until early 2000 and resulted in the imposition of significant penalties and other sanctions.

In addition, on November 13, 2000, the Commissioner issued an Emergency Authorization to Northeast Nuclear Energy Company. The discharges covered by this emergency authorization have been incorporated into the new draft permit. Section III of the Emergency Authorization provides that upon the final determination of Dominion's application for reissuance of the new draft permit, the emergency authorization shall expire. As such, upon the Commissioner's final determination of the current renewal application, the November 13, 2000 Emergency Authorization shall expire and no longer be in effect.

On March 29, 2001 the existing NPDES Permit Number CT0003263 and Emergency Authorization Number EA0100176 were transferred from Northeast Utilities Service Company to Dominion, following the sale of the facility to Dominion. Dominion has been operating MPS since March 2001.

THERMAL IMPACTS FROM MILLSTONE'S DISCHARGE

The thermal impacts from the discharges at MPS come almost exclusively from the discharge of once through cooling waters. This wastewater is first discharged into the quarry on-site and then into Long Island Sound. The thermal impacts from this discharge have been monitored for close to thirty (30) years Data from this monitoring indicate that

together, the once through cooling water from Unit 2 and Unit 3 represent about 2.8% of the mean tidal flow through Twotree Island channel, just south of Millstone Point and that the thermal plume produced during operation of MPS is dispersed and assimilated by the strong currents off Millstone Point with little apparent effect on the area's ecology. This location is well suited for heat dissipation and is the primary driver of the thermal plume's dynamic behavior thereby limiting its impacts on aquatic biota. Each year's monitoring results are presented in an Annual Report provided to the Department.

There are no federal technology-based or water-quality based limits for facilities like Millstone regarding the thermal component of its discharge. Connecticut does have certain standards included within the state's Water Quality Standards ("WQS").

Section 10 of Connecticut's WQS allow for the establishment of a zone of influence when permitting discharges to surface waters in order to allocate a portion of the receiving waters for mixing and assimilation of the discharge. Section 10 states that the zone of influence for assimilation of a thermal discharge shall be limited to the maximum extent possible and as a guideline shall not be greater than 25% of the cross sectional area or volume of flow of the receiving water.

Consistent with section 10, the previous permit recognized a zone of influence, extending in a radius not to exceed 8,000 feet from the discharge outlet at the quarry cut. The 8,000-foot limit was established based upon a thermal plume model developed for MPS. (Stoltzenbach and Adams, 1979). The new draft permit retains this approach. In addition, the new draft permit requires that Dominion remap the thermal plume and evaluate changes in the outfall structure that may lead to further minimization of the areal extent of the thermal zone of influence. (See section 10(W) and (X)).

Section 10 also states that the water quality criteria shall apply outside the zone of influence for a discharge. The water quality criteria applicable to a discharge depend upon the classification of the surface water into which a discharge is made. The portion of Long Island Sound into which MPS discharges is Class SA. With respect to the allowable temperature increase, the water quality criteria for Class SA are that "there shall be no changes from natural conditions that would impair any existing or designated uses assigned to this Class, and in no case exceed 83 degrees F, or in any case raise the temperature of the receiving water more than 4 degrees F. During the period including July, August and September, the temperature of the receiving water shall not be raised more than 1.5 degrees F unless it can be shown that spawning and growth of indigenous organisms will not be significantly affected."

The revised draft permit, like the previous permit, contains requirements to implement these requirements. While the revised draft permit imposes a 105 degrees Fahrenheit maximum temperature limit on the discharge from the quarry cuts into Long Island Sound, the revised draft permit also prohibits MPS's discharge from increasing the temperature of the receiving waters more than 83 degrees Fahrenheit, or in any case, raising the temperature of the receiving waters by more than 4 degrees outside the mixing zone. In addition, MPS has demonstrated that during July, August and September, while

the increase in the temperature of the receiving water is greater than 1.5 degrees, but less than 4 degrees, that such increase will not significantly affect spawning and growth of indigenous organisms.

The revised draft permit also retains conditions from the previous permit limiting the difference between the temperature of the intake water and the temperature of the water being discharged. This differential is referred to as the "delta-T". For the discharge from the quarry cut into Long Island Sound and the discharge from Unit 2 into the quarry cut, the delta-T cannot exceed 32 degrees Fahrenheit. The delta-T for the discharge from Unit 3 into the quarry is 28 degrees Fahrenheit.[1]

There is one other thermal component of MPS's discharge worth noting. As mentioned above, the new draft permit requires the installation of VFDs at the intake structures of Unit 2 and Unit 3. When the VFDs are used, the amount of intake water will be reduced which should also reduce the level of impingement mortality and entrainment.[2] Since there is less water available to transfer the heat generated by the operation of MPS, the temperature of the water discharged when the VFDs are operating will be higher than the temperature of the water discharged when the VFDs are not operating. While the upper limit temperature established in the previous and in the revised draft permit has not changed, in order to maintain optimal generating capacity at this reduced flow, the revised draft permit established a higher delta-T for the time that the VFDs are operating. For the discharge from Unit 2 into the quarry, this new delta-T is 46 degrees Fahrenheit, or 48 degrees Fahrenheit during pump failure or maintenance (see Table C, remark 2). For the discharge from Unit 3 into the quarry, this new delta-T is 38 degrees Fahrenheit, or 40 degrees Fahrenheit during pump failure or maintenance (see Table O, remark 2). For the discharge from the quarry cuts into Long Island Sound, the new delta-T is 41 degrees Fahrenheit. While the temperature of the discharge into Long Island Sound still cannot exceed 105 degrees Fahrenheit, due to reduced flows, the discharge will exit the quarry at a lower velocity and minimally alter the rocky shore aquatic community (attached algae and relatively sedentary invertebrates) in a small area of shoreline adjacent to where the combined discharge exists to Long Island Sound. Also, the revised delta-Ts to accommodate low flow during the winter flounder spawning season will not effect the requirement to not increase the waters of Long Island Sound outside the zone of influence above 83 degrees Fahrenheit, or increase the temperature of the receiving waters more than 4 degrees. These requirements remain in effect, even when the VFDs are operating.

[1] For both the discharges from the quarry cut into Long Island Sound and the discharges from each unit into the quarry, the permit provides for a brief increase in the delta-T for extenuating circumstances, such as pump failure or maintenance.

[2] From April 4th to May 14th, the intake flow limits are reduced" from 2,190,000,000 to 1,270,200,000 in 2011, from 2,190,000,000 to 1,467,300,000 in 2012, and from 2,190,000,000 to 1,095,000,000 in 2013. After May 14th until June 5th or until the first day after May 14th when the intake water temperature reaches 52 degrees Fahrenheit, whichever is sooner, the intake flow limits are reduced from 2,190,000,000 to 1,467,300,000.

In support of this proposed increase in delta-T, Dominion provided an analysis of the altered thermal plume characteristics during the period of reduced cooling water usage with higher discharge temperature and has shown that the relatively small temperature increase for a short duration would have minimal effect on resident flora and fauna. The analysis supports the conclusion that the thermal impacts of Millstone Station's operations are limited to a small geographic area and do not threaten species viability or the ecological integrity of the surrounding waters of Niantic Bay, Jordan Cove or Long Island Sound. While thermal discharge plumes are also capable of impeding fish migration, DEP does not believe this to be the case at MPS because of the open water nature of the discharge location, which provides for rapid dilution to ambient temperatures and the ample opportunity for fish to move around any potential thermal barrier.

These requirements for the most significant thermal component of MPS's discharge are summarized below:

DSN 001, the combined discharge from Units 2 and 3 from the Quarry Cuts into Long Island Sound (see Table A)

Maximum temperature of the discharge is 105 degrees F.

The usual delta-T is 32 degrees Fahrenheit, but can be increased under unusual conditions to 44 degrees Fahrenheit for a period not exceeding 24 hours. The delta-T shall not exceed 41 degrees Fahrenheit from April 4th until May 14th. After May 14th, the delta-T remains at 41 degrees Fahrenheit until June 5th, or the date that the intake water temperature reaches 52 Fahrenheit, whichever is sooner, after which the delta-T shall return back to 32 degrees Fahrenheit.

The temperature of the discharge shall not increase the temperature of the receiving stream above 83 degrees Fahrenheit, or, in any case, raise the temperature of the receiving stream by more than 4 degrees Fahrenheit.

DSN 001 B the combined discharges from Unit 2 into the Quarry (see Table C)

The usual delta-T is 32 degrees Fahrenheit, but can be increased to 44 degrees Fahrenheit for more than 24 hours due to pump failure or maintenance. During reduced flow due to extended (more than 24 hours) pump outage or maintenance, the delta-T shall not exceed 38 degrees Fahrenheit with a corresponding limit of 44 degrees Fahrenheit for 24 hours due to failure or maintenance of an additional pump. The delta-T shall not exceed 46 degrees Fahrenheit from April 4th until the May 14th. After May 14th, the delta-T remains at 46 degrees Fahrenheit until June 5th, or the date that the intake water temperature reaches 52 Fahrenheit, whichever is sooner, after which the delta-T shall return back to 32 degrees Fahrenheit.

DSN 001 C the combined discharges from Unit 3 into the Quarry (see Table O)

The usual delta-T is 28 degrees Fahrenheit, but can be increased to 30 degrees Fahrenheit for more than 24 hours due to pump failure or maintenance. During reduced flow due to extended (more than 24 hours) pump outage or maintenance, the delta-T shall not exceed 30 degrees Fahrenheit with a corresponding limit of 36 degrees Fahrenheit for 24 hours due to failure or maintenance of an additional pump. The delta-T shall not exceed 38 degrees Fahrenheit from April 4th until May Bar racks and traveling coarse mesh screens with sluiceway fish return systems have been installed in the Unit 2 and 3 cooling water intake structures to mitigate the impingement of fish and other aquatic organisms in seawater withdrawn from Long Island Sound.

There is no treatment required for once through non-contact condenser cooling water or service water required for plant safety systems. Some plant process wastewaters, also known as low volume wastewaters, receive treatment as required consisting of one or more of the following: neutralization, coagulation, activated charcoal filtration, ion-exchange, demineralization, oil/water separation, and batch treatment of steam electric low volume wastewaters.

Also, there is an ongoing comprehensive hydrazine minimization and treatment program. Hydrazine is a chemical widely used in the electrical power generating industry for corrosion control in steam generation systems and other areas where metalwork must be protected.

Specific details on plant process descriptions, the types of treatment provided, substances authorized for discharge, effluent limitations and related information is contained in the draft permit and in the Fact Sheet.
14th. After May 14th, the delta-T remains at 3 Bar racks and traveling coarse mesh screens with sluiceway fish return systems have been installed in the Unit 2 and 3 cooling water intake structures to mitigate the impingement of fish and other aquatic organisms in seawater withdrawn from Long Island Sound.

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Specific details on plant process descriptions, the types of treatment provided, substances authorized for discharge, effluent limitations and related information is contained in the draft permit and in the Fact Sheet.

8 degrees Fahrenheit until June 5th, or the date that the intake water temperature reaches 52 Fahrenheit, whichever is sooner, after which the delta-T shall return back to 28 degrees Fahrenheit.

The previous draft permit and the new revised draft permit require compliance with the state's water quality standards and all other applicable requirements. The Fact Sheet that accompanied the previous draft permit described the effluent limitations discussed above, regarding the thermal component of Millstone's discharge, in terms of a "variance". This was a misnomer. Except for revisions to accommodate variable frequency drives, which drives are discussed below, the effluent limits for the thermal component of the discharge from Millstone are the same in both the previous and the new revised draft permit. As such, whether framed in terms of a variance or not, the limits in the permit regarding the thermal component of Millstone's discharge remain the same as they were in the previous draft permit. The Department makes clear here that, with respect to the thermal component of Millstone's discharge, no variance from the state's water quality standards or from any other applicable requirement is needed because the thermal component of the discharge is consistent with the state's water quality standards and those standards are sufficient to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving waters.

[The Department's position on the thermal plume effect is based on a review of the following documents: Interoffice Memorandum from David Simpson, DEP-Marine Fisheries Division to James Grier, DEP-Water Permitting & Enforcement Division, dated December 16, 2005-Millstone Thermal Effluent and DNC Correspondence D17272 to CTDEP dated December 6, 2001, Millstone Power Station, Analysis of the 1.5 degree Isotherm in Relation to the Spawning and Growth of Indigenous Organisms Report, Interoffice Memorandum from Dave Simpson, DEP-Marine Fisheries Division to Charles Nezianya, DEP-Water Permitting and Enforcement Division, dated November 14, 2007. DNC Correspondence D17849 dated February 28, 2007 and DNC Correspondence D17878-Millstone Power Station Supplemental Information on Thermal Plume Analysis.]

COOLING WATER INTAKE STRUCTURES AND BEST TECHNOLOGY AVAILABLE

CWA Section 316(b), 33 U.S.C. § 1326(b), states: "[a]ny standard pursuant to section 301 or 306 of the Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available ("BTA") for minimizing adverse environmental impact". Largely because of EPA's earlier (i.e. late 1970's) but unsuccessful efforts to establish regulations to implement this section of the Act, NPDES authorized states such as Connecticut have made permitting decisions regarding CWA Section 316(b) on a case-

by-case basis using best professional judgment. In previous NPDES permits issued for MPS, once-through condenser cooling water systems was BTA, subject to ongoing review of the ecological monitoring program results and data.

Since the current permit was issued in December 1992, ongoing ecological monitoring program and associated annual reports produced by MPS have shown a deterioration in the size and long-term viability of the Niantic River winter flounder stock. This decline, which has been gradually occurring over nearly 20 years, is well documented throughout the entire northeast fishery, from Maine to the mid- Atlantic states, but is more pronounced locally in the Niantic River watershed. Many causative factors have been cited for current conditions, including but not limited to entrainment (i.e., the taking in of fish larvae and other aquatic organisms through a cooling system) at Millstone, fishing mortality, habitat deterioration, predation and higher mean temperatures. However, there is no scientific agreement on the specific role and relative contribution of each factor. In view of this situation, the DEP required a complete re-examination of all possible technology alternatives to reduce entrainment.

The ensuing review process culminated in a proposal by DNC to install the variable frequency drives mentioned above that will, in conjunction with spring refueling outages, reduce cooling water usage by over 40% during the peak period of the annual winter flounder spawning season, i.e., from April 4th until May 14th. After May 14th, flows remain reduced until June 5th or the date when the water temperature at the MPS cooling water intakes structures exceeds 52 degrees Fahrenheit, whichever is sooner. The 52 degree or June 5th criterion for determining the end of the flow/entrainment reduction "window" is specified to insure that entrainment mitigation would continue until the winter flounder spawning season peak is over (delay may occur due to unusually cold ambient temperatures). This interval was selected following analysis of the characteristics of the Niantic River winter flounder population's spawning behavior based on nearly 30 years of monitoring. The degree of flow reduction is also maximized by coinciding the flow reduction with the scheduling of planned spring refueling outages for Unit 2 and Unit 3. The new variable frequency drives will be installed in the fall of 2009 for Unit 2 and the spring of 2010 for Unit 3. In addition to seasonal flow reduction, the revised draft permit requires DNC to evaluate the possibility of extending the use of the variable frequency drives beyond the winter flounder spawning season, undertake a laboratory-scale feasibility study for using fine mesh screen technology at the Unit 2 and/or Unit 3 intake structures, including a possible pilot study, an investigation into sources of excess nitrogen in the Niantic River watershed and mitigation alternatives, refine its use of the winter flounder mass-balance model, update entrainment and impingement monitoring at MPS, and perform a full evaluation of measures that can be taken at the facility to reduce impingement and entrainment. These permit conditions are in section 10 of the revised draft permit.

In addition to adverse impacts from entrainment, adverse impacts from impingement mortality was also reviewed. The unit intake structures house large circulating water pumps for condenser cooling as well as service water pumps that operate continuously for plant safety systems. Presently, each of the Unit 2 and 3 intake

structures utilizes 2-inch bar racks and curtain walls to keep out very large objects, which are followed by 3/8-inch mesh traveling screens that are washed to dislodge fish and other aquatic organisms, and then discharged to Long Island Sound via sluiceways. The curtain wall prevents warm surface water, ice, and surface marine organisms from entering the intake. Each intake has lateral fish passageways installed in the intake bay walls upstream of the traveling screens to allow fish to escape the screen faces. Unit 3 has a traveling screen that incorporates both low and high-pressure spray systems which work in sequence to remove impinged aquatic organisms and debris separately in order to optimize survival rates. Unit 2, due to its older intake structure design, relies on a single high-pressure spray to convey both impinged organisms and debris back to Long Island Sound. Despite this difference in configuration, an evaluation of the effectiveness of the Unit 2 design has shown that existing impingement controls provide good protection for all but the most delicate species (e.g. jellyfish), and are comparable in effectiveness to the performance of controls observed at Unit 3. Historical, but limited, impingement mortality studies have shown overall good to high rates of survival at MPS or low impingement mortality rates, again depending on species, seasonal variations, and other factors. The data suggests that survival of winter flounder at various life stages after impingement at both Unit 2 and Unit 3 has been very high, i.e. greater than 90%.

The revised draft permit requires the applicant to update impingement mortality monitoring studies, including a reassessment of the need for a low-pressure spray for the Unit 2 intake. This study will better evaluate the efficacy of the existing impingement controls, including the design of fish return systems, to determine if new, modified or additional equipment or procedures are needed.

In addition, on July 9, 2004, EPA published its final regulations for Cooling Water Intake Structures at Large Power Plants for Existing Facilities. These rules, known as the Phase II rules, were promulgated to address the adverse impacts on all life stages of aquatic organisms, including fish and shellfish associated with the withdrawal of large amounts of cooling water from power plants. Among other things, the rules established performance standards for impingement mortality and entrainment from existing cooling water intake structures, such as Millstone's.

On August 25, 2006, the Commissioner issued the initial notice of a tentative determination to renew MPS's NPDES permit. The previous draft permit required compliance with the EPA's Phase II rules. In addition, the previous draft permit included a BTA decision that was based upon balancing the costs versus the benefits of implementing particular technology for minimizing adverse environmental impacts at MPS.

On January 25, 2007, before a public hearing on the previous draft permit was held, the United States Court of Appeals for the Second Circuit ("Second Circuit") issued its decision in Riverkeeper, Inc., v. EPA, 475 F. 3d 83, (2d Cir. 2007) (Riverkeeper II). Riverkeeper II affected the previous draft permit for MPS in two ways.

First, the Second Circuit upheld challenges to many parts of the Phase II rules remanding the rules back to EPA. On March 20, 2007, in light of the Second Circuit's decision, EPA's Assistant Administrator for Water issued a memorandum announcing EPA's intention to suspend the Phase II rules. On July 9, 2007, EPA published in the federal register, notice of its decision to suspend the Phase II rules. Second, the court determined that cost-benefit analysis cannot be used in making a BTA determination under section 316(b).

Since the Commissioner's BTA determination was contrary to the decision of the court and since the draft permit incorporated a requirement to comply with rules that had been suspended, the Commissioner requested time to evaluate the impact of the Riverkeeper decision on the previous draft permit. This evaluation is now complete.

The revised draft permit does not include a requirement to comply with the now suspended Phase II rules. As mentioned above, the new draft permit does still require that Dominion evaluate the best technology available that can be implemented for the Unit 2 and Unit 3 cooling water intake structures. This includes an evaluation of all technological and operational measures, individually or in combination, for minimizing adverse environmental impacts associated with the Unit 2 and Unit 3 cooling water intake structures.

In addition, the Commissioner's new BTA determination is in section 10 of the revised draft permit. This determination does not rely upon a cost-benefit analysis. Rather, the Commissioner has determined that the current location, design, construction and capacity of the cooling water intake structures at MPS does not represent the best technology available for minimizing adverse environmental impacts. Additionally, the Commissioner has determined that there have been findings that reducing cooling water intake flows through the use of closed cycle recirculation systems reflects the best technology available for minimizing adverse environmental impacts and that the information provided with the Permittee's application identified reducing cooling water intake flows through the use of closed cycle recirculation systems as the most effective technology for minimizing adverse environmental impacts. This identification, however, was based upon technologies that exist and not on an evaluation of whether closed cycle cooling, or any other technology can be implemented at Units 2 and 3 at Millstone. To determine whether and what technologies can be implemented at Units 2 and 3, the new draft permit requires that the Dominion study the potential technological and operational measures, including, but not limited to closed cycle cooling, for minimizing adverse environmental impacts from the cooling water intake structures for Unit 2 and Unit 3. Once this study is completed the Commissioner shall make a subsequent BTA determination for the cooling water intake structures for Units 2 and 3. Any such subsequent determination will be implemented through a permit proceeding, including public notice and an opportunity for pubic hearing.

OPERATIONAL IMPACTS OF MILLSTONE STATION ON FISHERIES RESOURCES

(a) Niantic River Winter Flounder

The ecological impacts associated with operation of Millstone Station have been a longstanding matter of concern given the large amounts of water withdrawn from Long Island Sound, primarily for once through condenser cooling water usage. The impact of the Station on the Niantic River winter flounder population in particular has been of paramount concern due to its value to commercial and recreational fishing interests in this area. As a result of this, detailed fisheries monitoring programs have been in place since 1976 to provide a basis for gauging the magnitude of the effects of this usage upon various fish species, as well as information on long-term abundance trends used to measure changes in these local fish populations. These studies have shown that the abundance of adult winter flounder spawners in the Niantic River peaked in the early 1980's and has decreased dramatically since then (from approximately 80,000 to about 4,000). There is much scientific debate among experts and professionals as to the reasons for this decline. Among those cited, in addition to the effects of cooling water usage at MPS, are high fishing mortality rates, rising water temperatures associated with climate change, predation by fish, birds and marine mammals, and adverse habitat changes. There have been several expert analyses (by DNC, DEP, and others) along with estimates of the degree of impact attributable to MPS (as measured by the fraction of larvae entrained at MPS) that have ranged from as low as 12% to as high as 57%, depending on the weight given to these and other causative factors and assumptions. There does not appear to be any resulting consensus as to the relative contribution that MPS has made to the decline of Niantic River winter flounder population. The severe decline in the Niantic River population has coincided with depressed regional (southern New England) winter flounder stocks of around 80%. It has been estimated that, at present, the Niantic River winter flounder stock makes up less than 2% of the exploitable winter flounder population in LIS.

[The Department's position relating to winter flounder is based on a review of the following documents: DNC reports "An Evaluation of Cooling Water system Alternatives, August 2001" and "Yearly Annual Reports on Monitoring of the Marine Environment of Long Island at Millstone Power Station" CTDEP Memorandum/Report dated January 25, 2000, Evaluation of MPS Operations and the Niantic River Winter Flounder Population prepared by Vic Crecco, Penny Howell and David Simpson, Marine Fisheries Division.]

There is agreement among DEP Marine Fisheries Division staff that the present condition of the Niantic River winter flounder stock is such that a natural recovery to a sustainable level is highly unlikely, even if the adverse effects of entrainment by MPS were to completely and immediately cease. It is their opinion that the existing, residual Niantic River stock will require a substantial external stimulus to augment its numbers to reach a critical mass, or self-sustaining population. This catalyst may be provided through the design and trial of an outside winter flounder stock importation/relocation

program. Such a program must coincide with a significant reduction in cooling water usage at MPS during the peak winter flounder spawning season as required in the proposed NPDES permit to minimize any new entrainment losses and increase the probability of this population recovering to earlier levels.

(b) Tautog

Another important commercial and sport fish in Long Island Sound that has been studied for MPS entrainment impacts is the tautog or blackfish. The total numbers of tautog larvae measured in annual surveys have been high and are a concern since this species forms local spawning aggregations susceptible to entrainment. The total of entrained tautog eggs is substantial, although recent studies have shown that this species is very fecund, capable of multiple annual spawnings in which females can produce 10 to 20 million eggs per season. Adult equivalent loss calculation estimates of several hundred tautog per year for two Unit operation are viewed as small (compared to a 2002 recreational fishery harvest of 107,000 fish). *[The Department's position on tautog is based on a review of the following documents: DNC Annual Reports on Monitoring of the Marine Environment of Long Island at Millstone Power Station and CTDEP Memorandum dated August 1, 2003 to Charles Nezianya, Water Permitting Enforcement Division from David Simpson, Marine Fisheries Division.]*

(c) Other Species of Fish and Shellfish

Atlantic menhaden larval entrainment at MPS has varied widely over the years reflecting the relative abundance of this coastal spawner over time. Adult equivalent loss estimates are up to 1 million fish. The coastwide unit stock of this fish numbers in the billions. Menhaden larval entrainment at MPS occurs during the summer and fall.

Adult equivalent anchovie losses are also small relative to overall stock size with loss estimates averaging around 50,000 adults. Anchovie entrainment occurs during June through September.

Adult equivalent losses for grubby (around 200,000) are somewhat more difficult to quantify since little is known about the size of this localized population. Grubby spawn during the winter and entrainment occurs during a timeframe of January-May, similar to winter flounder. Some benefit to this species are expected to be derived from the planned Unit 2 and 3 early spring flow reductions required for winter flounder.

The cunner is also likely comprised of localized spawning groups. Although not a sport fish, it frequently occurs as a bycatch in the recreational fishery. The Sound-wide population trends of this fish closely mimic that of tautog, which is an exploited species. Adult equivalent losses are estimated at around 50,000 per year for this summer (May – July) spawner, which may benefit marginally from the recommended seasonal flow reduction period. There are no local cunner population estimates available.

American sand lance are a late winter and early spring spawner, Adult equivalent losses attributable to MPS are estimated to average around 50,000 annually. The size of this coastal population likely ranges in the hundreds of millions to billions of fish.

The local population of American lobster has been studied at MPS since 1978. Survey data has shown that this local population from 1978 to 1999 was stable or increasing. There was a much lower abundance of lobster observed from 2000 to 2004 that can be attributed to mortality from a shell disease affecting regional populations (eastern Long Island Sound to the Gulf of Maine) and unrelated to MPS operations. Since 2004, this condition has improved and the local population of lobster is recovering, although lobster catches remain depressed in other areas, especially western Long Island Sound. The conclusion of lobster monitoring studies at MPS to date is that the levels of larvae entrainment and juvenile and adult impingement are modest and apparently have not caused a decrease in the local lobster population.

[The Department's position on other species of fish and shellfish is based on a review of the following documents: DNC yearly Annual Reports on Monitoring of the Marine Environment of Long Island at Millstone Power Station and CTDEP Memorandum dated August 1, 2003 to Charles Nezianya, Water Permitting Enforcement Division from David Simpson, Marine Fisheries Division, etc.]

WATER-QUALITY BASED LIMITATIONS

(a) Hydrazine

Hydrazine is a chemical widely used in the electrical power generating industry for corrosion control in steam generation systems and other areas where metalworks must be protected. Hydrazine is a highly effective oxygen scavenger and is also known for its use as a rocket fuel. The potential risk of hydrazine as an animal and human carcinogen and its general toxicology make it a chemical of concern. The chemical itself is highly reactive and degrades readily in environmental media. At Millstone Station, hydrazine is discharged in controlled amounts from several locations. By far the largest sources of hydrazine originate from the Unit 2 and Unit 3 condensate polishing facilities (i.e., discharge serial numbers, or DSNs, 001B-6 and 001C-6), which account for more than 90% of the total amounts discharged.[3]

[3] Hydrazine may also be present in discharges from several other locations at MPS, albeit at low frequencies and/or concentrations. Specifically, hydrazine may be discharged via DSNs 001A (Unit 1 decommissioning wastewaters); 001B-1,Unit 2 steam generator blowdown; 001B-1(a), Unit 2 wet lay-up; 001B-2, Unit 2 waste monitor tank; 001B-2(a), Unit 2 steam generator chemical cleaning wastewaters; 001B-3, Unit 2 coolant waste monitor tank; 001B-5, Unit 2 service water; 001B-8, Unit 2 condenser hotwell discharge; 001B-9, Unit 2 closed cooling water system drainage; 001B-10, Unit 2 miscellaneous discharges; 001C-1, Unit 3 steam generator blowdown, 001C-1(a), Unit 3 wet lay-up; 001C-2, Unit 3 radiation waste test tank; 001C-3, low level radiation waste drain tank; 001C-4, Unit 3 secondary system wet lay-up drainage; 001C-5, Unit 3 service water; 001C-6(a), Unit 3 steam generator chemical cleaning wastewater; 001C-6(b), Unit 3 auxiliary boiler blowdown; 001C-8, Unit 3 condenser hotwell wastewater; 001C-9, Unit 3 closed cooling water system drainage; and DSN 006-1, Unit 2 and 3 floor drains, surface runoff and yard drains, water treatment wastewaters and other miscellaneous wastewaters.

As required by DEP since the issuance of the current NPDES permit in December 1992, much has been done to minimize the use of and significantly reduce the amount of hydrazine discharged, particularly from the Unit condensate polishing facilities ("CPF"). These measures include substitution of alternative, less toxic molybdenum-based chemicals for corrosion control, more precise chemistry quality control to reduce excess hydrazine residuals, reuse of wet lay-up waters during Unit start-up, and improved operational control of oxygen in-leakage which reduces the levels of hydrazine dosage needed for effective scavenging. The most productive new procedure has been the introduction of a hydrazine treatment process in the Unit 2 and Unit 3 condensate polishing facilities. Hydrogen peroxide is used in the CPF neutralization sumps to reduce hydrazine concentrations by 50% or more, depending on available reaction time. As a result of all these improvements, the amount of hydrazine in discharges from MPS have been reduced in total by over 50%, compared to previously authorized levels. There are other corrosion inhibitor compounds listed in the application that can be authorized through a minor permit modification or approval process.

The allowable concentration of hydrazine from the two major internal sources of hydrazine discharged from the Station, i.e. the Unit condensate polishing facilities, has been reduced from 75.0 mg/l (milligrams per liter, or parts per million) to 37.5 mg/l to reflect the degree of treatment that can be reliably and effectively provided. The new, lower limitation provides an even greater margin of safety for protection of aquatic life in the receiving waters (i.e., Long Island Sound). Effluent limitations of 125.0 mg/l have been retained for hydrazine present in DSNs 001B-1(a) and 001C-1(a), i.e. Unit 2 and Unit 3 Steam Generator wet lay-up discharges, which occur very infrequently during plant start up cycles.

For DSN 006, a much more stringent concentration limit was established (i.e. a maximum of 50 ug/l) taking into account that there are no known sources of hydrazine to this outfall other than the potential for extremely minute inputs from authorized floor drainage wastewater generated from the Unit 2 and Unit 3 turbine building steam/condensate systems. In addition, there is a much lower level of dilution from other non-contaminated sources at this location and the assimilative capacity at this location, (i.e., adjacent to the Unit 3 intake structure).

Finally, monitoring for the presence of hydrazine is required at other discharge locations. Limitations have not been specified in these other locations because of the effectiveness of the hydrazine reduction measures taken and/or because of the extremely low probability of its presence in these internal wastestreams.

[The Department's position on hydrazine is based on a review of DNC correspondence D17273 to CTDEP dated December 5, 2001, Millstone Power Station, Final Hydrazine Reduction Report]

(b) Aquatic Toxicity

The revised draft permit contains a requirement to conduct quarterly vertebrate and invertebrate chronic toxicity testing of MPS's discharge at the outlet to Long Island Sound on Millstone Point (i.e., DSN 001-1), Unlike an acute toxicity test, which is a measure of a discharge's potential to pose an immediate threat to aquatic life from the toxic constituents of a discharge, a chronic toxicity test is a more time intensive and sensitive testing methodology that assesses the long-term potential for harm, based upon the toxic constituents in a discharge, to reproductive and growth processes needed to sustain healthy aquatic species. The revised draft permit replaces quarterly acute and chronic toxicity testing for each unit's combined discharge with a chronic toxicity test for the combined discharge that enters Long Island Sound . This change was made in recognition of the approximately 15 years of positive results measured at the Station (i.e., that there has never been a toxicity test result that suggests any measurable potential for short term impairment to the local biological community resulting from toxic constituents in MPS's discharge to Long Island Sound. These past results also confirm that any chemical additives that have been used in very small amounts to control corrosion and biofouling have had no measurable effect on acute toxicity. This monitoring approach is consistent with that specified for other large power generation facilities that have achieved similar results.

The revised draft permit also requires acute toxicity testing for the discharge of combined Unit 2 and Unit 3 wastewater discharges from turbine and control building floor and roof drains, excluding stormwater run-off, emergency diesel jacket cooling water, Units 2 and 3 condensate surge tank drainage, hydrolazing wastewater, de-ionized water and seawater, fire suppression system drainage and flushes, reject wastewaters from reverse osmosis water treatment system, air conditioning and air compressor condensate, and miscellaneous power plant discharges that discharge into Niantic Bay.

[The Department's position is based on a review of historical DNC discharge monitoring reports.]

TECHNOLOGY-BASED LIMITATIONS

(a) Chlorine

Chlorine is commonly used facilities such as MPS for preventing and/or controlling the unwanted growth of organisms (or biofouling) in large cooling water systems. At MPS, chlorine is used for control of biofouling in both the condenser cooling water and service water systems (i.e. DSNs 001C-1, 001B-1, 001B-5, and 001C-5). While limitations for the allowable quantities and concentrations of chlorine in cooling water discharges from electrical power generating facilities, such as MPS, are specified in 40 CFR Part 423, the effluent limits specified in the revised draft permit are more stringent than those specified under the federal regulations, are in the existing (December 1992) NPDES permit issued to Millstone and are based upon the exercise of

the Department's best professional judgment. A chlorine limitation of 0.1 mg/l is specified for DSN 001-1, the combined discharge for Unit 2 and Unit 3 to Long Island Sound at the quarry cut. In addition, chlorine limits of 0.25 mg/l are specified for DSNs 001B and 001C, as well as the condition that "[c]hlorine shall not be discharged in the condenser cooling water for more than two hours in any one day. Chlorine shall not be discharged in the condenser cooling water of more than one Unit at any one time". Similarly, chlorine concentration limits of 0.25 mg/l are specified for DSNs 001B-5 and 001C-5, the service water discharges for Units 2 and 3.

(b) Oil and Grease

40 CFR Part 423 establishes limits for oil and grease for facilities such as Millstone. Similar to chlorine, the effluent limits specified in the revised draft permit are more stringent than those specified under the federal regulations and are based upon the exercise of the Department's best professional judgment.

A maximum concentration of 15.0 mg/l total oil & grease is specified for a number of internal waste streams as well as some direct discharges to receiving waters. These discharges include, DSNs 001A, 001B-1, 001B-1(a), 001B-2, 001B-3, 001B-6, 001B-8, 001B-10, 001B-11, 001C-1, 001C-1(a), 001C-2, 001C-3, 001C-4, 001C-6, 001C6(a), 001C-6(b), 001C-8, 006-1, and for various storm drain outfalls.

(c) Total Suspended Solids

40 CFR Part 423 establishes limits for total suspended solids for facilities such as Millstone. The effluent limits specified in the revised draft permit are more stringent than those specified under the federal regulations and are based upon the exercise of the Department's best professional judgment.

A maximum concentration of 30.0 mg/l total suspended solids is specified for a number of internal waste streams as well as some direct discharges to receiving waters. These discharges include, DSNs 001A, 001B-1, 001B-1(a), 001B-2, 001B-2(a), 001B-3, 001B-6, 001B-8, 001B-10, 001B-11, 001C-1, 001C-1(a), 001C-2, 001C-3, 001C-4, 001C-6, 001C-6(a), 001C-6(b), 00C-8, and 006-1.

(d) Heavy Metals – Boron, Cadmium, Chromium, Copper, Iron, Lead, Molybdenum and Zinc

Effluent limits for heavy metals have been established for several discharges at MPS, primarily for internal wastestream operations (i.e., smaller discharges which combine with the much larger condenser cooling water and service water volumes which are discharged to LIS via the quarry cut). All of the limitations for heavy metals in the proposed permit are the same as those in the current permit.

The revised draft permit contains average monthly effluent limits of 1.0 mg/l for total chromium, copper, nickel, and iron and 0.1 mg/l for cadmium and lead respectively, for wastewaters associated with steam generator chemical cleaning and decontamination wastewaters (see DSNs 001B-2(a) and 001C-6(a)). These operations occur very infrequently, usually only for a limited number of days every few years. While 40 CFR Part 423 establishes limits for copper and iron, the effluent limits specified in the revised draft permit are more stringent than those specified under the federal regulations and are based upon the exercise of the Department's best professional judgment. The limits for chromium, cadmium and lead are based upon the exercise of the Department's best professional judgment.

For DSNs 001A the revised draft permit contains an effluent limit of 1.0 mg/l for zinc. Boron continues to be monitored at multiple discharge locations at MPS since boric acid is used in the primary coolant systems of pressurized water reactor plants to control the nuclear reaction. Monitoring for molybdenum is required for those plant systems where this has been substituted for hydrazine in corrosion control.

(e) Other Substances

The following chemicals: enthalomine (a common metals chelating agent), methoxypropylamine (Conquor 3585), dimethylamine (Bulab 8007) and dimethyldithiocarbamate (Bulab 6013) are used at MPS for corrosion control and metallurgy protection in multiple plant systems. Usage of these chemicals is infrequent and they have been pre-screened for their low toxicity characteristics. Monitoring for these chemicals is required when they are used to demonstrate that only trace levels are present in MPS' discharge. See DSNs 001B-1, 001B-1(a), 001B-2, 001B-2(a), 001B-3, 001B-6, 001B-8, 001B-9, 001B-10, 001B-11, 001C-1, 001C(a), 001C-2, 001C-3, 001C-4, 001C-6, 001C-6, 001C-6(a), 001C-6(b), 001C-8, 001C-9, and 006-1.

(f) Internal Waste Streams

The revised permit contains limits for a number of internal waste streams. These limits were based upon best professional judgment and for the most part are carried over from the existing permit for MPS. Limits for internal waste streams were included since many of the internal waste streams require treatment and the limits help ensure that these treatment systems are effective.

REFERENCES

1. NPDES Permit No. CT0003263 issued to Northeast Nuclear Energy Company (NNECO) issued on December 14, 1992 and transferred to Dominion Nuclear Connecticut, Inc. (DNC) on March 30, 2001.
2. Emergency Authorization No. EA0100176 issued to NNECO on October 13, 2000 and transferred to DNC on March 30, 2001.
3. Application No. 199701876 for renewal of NPDES Permit No. CT0003263 for Millstone Nuclear Power Station received June 13, 1997 from NNECO and transferred to DNC on March 30, 2001.
4. Addendums No. 1 through No. 10 to Application No. 199701876 from DNC.
5. Millstone Power Station, "An Evaluation of Cooling Water system Alternatives", August 2001 prepared by DNC.
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16. ESSA Technologies Ltd. (ESSA) 2002a, Report on Review of Scope of Study, January 2002.
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22. Toxicological Profile for Hydrazines, U.S. Department of Health & Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, September 1997.
23. DNC correspondence D17273 to CT DEP dated December 5, 2001, Millstone Power Station, Final Hydrazine Reduction Report.
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25. CT DEP Memorandum dated August 1, 2003 to Charles Nezianya, Water Permitting & Enforcement Division from David Simpson, Marine Fisheries Division.
26. CT DEP Memorandum dated June 18, 2003 to Dave Simpson from Vic Crecco, Marine Fisheries Division.
27. CT DEP Memorandum dated August 28, 2003 to Ozzie Inglese, Water Permitting & Enforcement Division from Vic Crecco, Marine Fisheries Division.
28. CT DEP Memorandum/Report dated January 25, 2000, *Evaluation of Millstone Power Station Operations and the Niantic River Winter Flounder Population* prepared by Vic Crecco, Penny Howell, and Dave Simpson, Marine Fisheries Division.
29. CT DEP Water Discharge Permit Regulations - Sections 22a-430-3 and 22a-430-4, Regulations of Connecticut State Agencies.
30. US EPA, 40 CFR Part 423 – Final Regulations for Steam Electric Power Generating Point Source Category.
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32. DNC correspondence D17666 to CT DEP dated March 7, 2005, Millstone Power Station, NPDES Permit Renewal.
33. DNC correspondence D17673 to CT DEP dated April 5, 2005, Millstone Power Station, Request for Schedule to comply with Phase II 316(b) Rule.
34. Annual Report 2004, Monitoring of the Marine Environment of Long Island Sound at Millstone Power Station, Waterford, Connecticut, Millstone Environmental Laboratory, April 2005.
35. DNC correspondence D17676 to CT DEP dated May 6, 2005, Millstone Power Station, Request for CWA Section 316(a) for renewal of variance for thermal limits at MPS.
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U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, July 2005.
37. DNC correspondence D17725 to CT DEP dated October 17 2005, Millstone Power Station, NPDES Permit Renewal, Response to DEP letter dated August 2, 2005.
38. DNC correspondence D17727 to CT DEP dated November 2005, Millstone Power Station, NPDES Permit Renewal Application-Response to DEP Questions.
39. Interoffice Memorandum, David Simpson (DEP- Marine Fisheries Div.) to James Grier (DEP – Water Permitting & Enforcement Div.), December 16, 2005 – Millstone Thermal Effluent
40. DNC correspondence D17849 to CTDEP dated February 28, 2007, re: Millstone Power Station NPDES Draft Permit
41. DNC correspondence D17878 to CTDEP dated April 2, 2007, re: Millstone Power Station Supplemental Information on Thermal Plume Analysis
42. Interoffice Memorandum, from David Simpson, Marine Fisheries Division, to Charles Nezianya, Water Permitting and Enforcement Division, dated November 14, 2007, on DNC's request for increase in delta T during the winter flounder low flow period from April 4 thru May 14

Table 1 – Summary Description of wastewater discharges and Treatment at Millstone Station

(Note: for a more detailed description of these discharges and treatment requirements, see draft NPDES permit and/or permit application process description)

Discharge Serial No. (DSN)	Type of Treatment	Description
001	No treatment required	Combined Units 2 & 3 discharge to Long Island Sound via quarry cut Max. daily flow = 2,255,625,000 gal/day (non-seasonal) Max. daily flow at reduced level , April 4 thru May 14 and thereafter, per Section 10(C) Maximum temperature = 105 degrees F Maximum temperature differential = 32 degrees F (non-seasonal) Maximum temperature differential = 46 degrees F (seasonal)
001A	Modular filtration skid system; Intermittent batch discharge	Unit 1 discharge to quarry via circulating water tunnel (condenser cooling and service water discharges are inactive) Unit 1 decommissioning wastewaters from spent fuel pool, make-up and cooling water; reactor building and evaporator system wastewaters; flushings from decontamination of plant components; fire suppression system water; misc. wastewaters from Unit 1 radiological control areas Max. daily flow = 40,000 gal/day
001B	No treatment required	Unit 2 discharge to quarry via circulating water tunnel Max. daily flow = 844,652,000 gal/day (non-seasonal) Max. daily flow at reduced level April 4 thru May 14 and thereafter, per Section 10(C)
001B-1	No treatment required	Unit 2 steam generator blowdown during open cycle operation, start-up/standby and hot stand-by operation, and shutdown Max. daily flow = 1,440,000 gal/day
001B-1(a)	No treatment required, except filtration during sludge lancing	Unit 2 steam generator wet lay-up wastewater, steam generator drainage and sludge lancing Max. daily flow = 280,000 gal/day
001B-2	Demineralizer/filtration/ charcoal/coagulant/pH control; Intermittent batch discharge	Wastewaters from Unit 2 radiological control areas in the reactor and turbine buildings; Unit 1 radiologically controlled wastewaters; Unit 3 auxiliary boiler system drainage and other misc. plant wastewaters Max. daily flow = 15,000 gal/day
001B-2(a)	Vendor provided process	Unit 2 steam generator chemical cleaning and decontamination wastewaters (infrequent) Max. daily flow = 60,000 gal/day
001B-3	Demineralizer/filtration/ charcoal/coagulant/pH control; Intermittent batch discharge	Wastewaters from Unit 2 radiological control areas including auxiliary building; reactor building and reactor coolant sumps; Unit 1 radiologically contaminated wastewaters; Unit 3 auxiliary boiler system leakage; steam generator blowdown and other misc. plant wastewaters Max. daily flow = 90,000 gal/day
001B-5	No treatment required	Service water for Unit 2 plant safety systems, auxiliary heat exchanger, pump lub and seal water, hydrolazing wastewaters

		Max. daily flow = 51,840,000 gal/day
001B-6 001B-6	TSS cartridge filter/pH adjustment/demineralizer/air sparging w/hydrogen peroxide; Batch discharge	Unit 2 condensate polishing facility wastewaters, fire suppression system water, waste evaporator water and service water; Unit 3 auxiliary boiler wastewaters, condensate drainage, carbon filter backwash, steam generator drainage and misc. plant wastewaters Max. daily flow = 75,000 gal/day
001B-8	No treatment required	Unit 2 condenser hotwell wastewater; steam generator, feedwater and condensate system drainage; hydrolazing wastewaters Max. daily flow = 250,000 gal/day
001B-9	No treatment required; Intermittent batch discharge	Unit 2 closed cooling water system drainage; hydrolazing and demineralizing wastewaters; incidental leakage during plant start-up, operation, and maintenance Max. daily flow = 30,000 gal/day
001B-10	No treatment required	Unit 2 standpipe discharge including feedwater system drainage, water box priming pumps, groundwater and circ water leakage; Unit 2 feed and condensate drainage and misc. plant wastewaters Max. daily flow = 150,000 gal/day
001B-11	Filtration of RBCCW heat exchanger wastewater	Unit 2 service water drainage and incidental leakage from the reactor building closed cooling water system; hydrolazing wastewater and misc. plant wastewaters Max. daily flow = 150,000 gal/day
001C	No treatment required	Unit 3 discharge to quarry via circulating water tunnel Max. daily flow = 1,410,933,000 gal/day (non-seasonal) Max. daily flow at reduced level April 4 thru May 14 and thereafter, per section 10(C)
001C-1	No treatment required	Unit 3 steam generator blowdown during open cycle operation, start-up, standby and hot stand-by operation, and shutdown Max. daily flow = 1,440,000 gal/day
001C-1(a)	No treatment required, except filtration during sludge lancing	Unit 3 steam generator wet lay-up drainage; chemical control and sludge lancing wastewaters Max. daily flow = 576,000 gal/day
001C-2	Filtration/demineralizer/charcoal /coagulant/ pH control; Intermittent batch discharge	Wastewaters from Unit 3 radiological controlled areas in the reactor and turbine buildings Max. daily flow = 50,000 gal/day
001C-3	Filter/demineralizer/charcoal/ coagulant/pH control; Intermittent batch discharge	Wastewaters from Unit 3 radiological controlled areas within the reactor building and other locations Max. daily flow = 20,000 gal/day
001C-4	pH adjustment and filtration	Unit 3 secondary system wet lay-up drainage; condenser cleaning wastewater; hydrolazing wastewaters; auxiliary boiler stack drainage Max. daily flow = 80,000 gal/day
001C-5	No treatment required	Service water for Unit 3 plant safety systems Max. daily flow = 86,400,000 gal/day
001C-6	Filtration/pH/TSS demineralizer elemental neutralization/air sparge/hydrogen peroxide; Batch discharge	Unit 3 condensate polishing facility wastewaters, fire suppression system water, waste evaporator water and service water; Unit 3 auxiliary boiler wastewaters, condensate drainage, carbon filter backwash, steam generator drainage and misc. plant wastewaters Max. daily flow = 75,000 gal/day
001C-6(a)	Vendor provided process	Unit 3 steam generator chemical cleaning and decontamination wastewaters (infrequent) Max. daily flow = 60,000 gal/day

001C-6(b)	Oil water separator in auxboiler room prior to sump	Unit 3 auxiliary boiler blowdown; hot water heating system drainage, misc. plant wastewaters Max. daily flow = 72,000 gal/day
001C-8	No treatment required	Unit 3 condenser hotwell wastewater; secondary system plant water and wet lay-up drainage; misc. plant wastewaters Max. daily flow = 250,000 gal/day
001C-9	No treatment required	Unit 3 closed cooling water system drainage; turbine and reactor building closed cooling water drainage; reactor plant and control building chilled water drainage; service water system drainage Max. daily flow = 30,000 gal/day
003-1	No treatment required	Unit 2 traveling screen wash water, hydrolazing wastewaters, pump bearing lubrication water, pump strainer backwash, intake desilting wastewaters, and misc. plant wastewaters Max. daily flow = 3,888,000 gal/day
003a-1	No treatment required	Unit 2 fish return sluiceway to Long Island Sound Max. daily flow = 3,888,000 gal/day
004-1	No treatment required	Unit 3 traveling screen wash water including fish return, hydrolazing wastewaters, pump strainer backwash and misc. plant wastewaters Max. daily flow = 11,520,000 gal/day
006-1	pH Adjustment, Oil/water separators, Filtration	Combined Unit 2 and Unit 3 wastewater discharges from turbine and control building floor and roof drains, emergency diesel jacket cooling water, Units 2 and 3 condensate surge tank drainage, hydrolazing wastewater, de-ionized water and seawater, fire suppression system drainage and flushes, reject wastewaters from reverse osmosis water treatment system, air conditioning and air compressor condensate, and misc. power plant discharges Max. daily flow = 432,000 gal/day exclude stormwater run-off
005,008, 009, 016, 024A, 1B-12	Oil/water separators in line	Stormwater including parking lot and roadway runoff, fire suppression system testing and drainage, clean water washes, condensate and misc. power plant wastewaters
007,011, 012, 014, 015, 019, 021, 022, 024, 027, 028, 032	No treatment required	Stormwater including parking lot and roadway runoff, fire suppression system testing and drainage, clean water washes, condensate and misc. power plant wastewaters
008, 020, 020A	Oil/water separators in line	Parking area and/or roadway stormwater, stormwater management areas
011,013, 014, 018,019 023, 025, 026, 028, 029, SMA-1, SMA-2, SMA-3, SMA-4	No treatment required	Parking area and/or roadway stormwater, stormwater management areas
017-1	No treatment required	Environmental Lab seawater from Jordan Cove into quarry

Monitoring Site No. 001	No treatment required	Unit 1, 2 and 3 intakes
001B, 001B-5, 001C, 001C-5	Biocide/chlorination	Control of macro-fouling
008, 016	Settling in fractionating tank	Firewater system flush
001-1, 001B, 001C, 006, 016	Intake demucking	Settling in lined dumpsters
001B-2, 001B-3, 001B-6, 001C-2, 001C-3, 001C-4, 001C-6	Hydrogen Peroxide	Used to treat hydrazine. Also used in primary water system as forced oxygenation to insure oxygen is present prior to filtration or ion exchange