SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN (SPCC)

Millstone Nuclear Power Station
Rope Ferry Road
Waterford, Connecticut

This plan describes the procedure adopted to prevent the discharge of oil into the navigable water of the United States, as required by 40 CFR Part 112, Environmental Protection Agency, Oil Pollution Prevention, Non transportation related onshore and offshore facilities.

Originally prepared: January 1974
Latest review: August 1988

GENERAL

The Millstone Nuclear Power Station contains three operating units. Unit 1 is a General Electric Boiling Water Reactor of 682 MWe capacity. Unit 2 is a Combustion Engineering Pressurized Water Reactor of 850 MWe capacity. Unit 3 is a Westinghouse Pressurized Water Reactor of 1150 MWe capacity.

The Station, situated on approximately 500 acres of land, was first placed in operation in late 1970. The site is located in the town of Waterford, Connecticut, on the north shore of Long Island Sound and on the east side of Niantic Bay. A site plan is attached.

Outside oil tank storage is predominately underground. Underground storage tanks are listed on Table 1. Additional oil is contained outside in tanks and equipment. Outside above ground oil storage tanks are listed in Table 2.

This plan was originally prepared by: Mr. Ralph Brisco
The latest revision was made by: J. Richard Robertson,
Station Environmental Coordinator

The person responsible for oil spill prevention and control is:

Station Superintendent - Millstone

A. Previous Spill Events

This facility has not experienced an oil spill into navigable water in the twelve month period prior to the effective date of the regulations. The last spill event into navigable water occurred on 9/30/87, when approximately 0.5 gallon of lubricating oil was released to a discharge sump. Corrective action was taken to prevent reoccurrence of similar spills and information has been submitted to the regional Environmental Protection Agency (EPA) Administrator on this and previous spill events. The oil spills to the environment that have occurred have involved relatively small amounts and all were effectively cleaned up by company and outside vendor personnel.

B. Potential for Equipment Failure

Experience at this facility does not indicate a reasonable potential for equipment failure that could result in quantities of oil released to navigable water that could not be easily controlled and contained.

C. Spill Prevention and Containment

1. Transformers are located on concrete retention barriers large enough to hold the entire oil contents plus ten percent of the transformers.
2. Underground tanks and transformer oil tanks are filled by truck. Liquid levels in these tanks are always measured before filling.
3. Sorbent materials are kept onsite in sufficient quantity to control any spillage.
4. Any spills that may be experienced would be responded to by implementing Northeast Nuclear Energy Company's Emergency Spill Response procedures.

5. Oil spill kit locations are shown on Attachment 8.1. The standard oil spill kit contains diking materials and sorbent materials, for use in containing and soaking up spills.
6. An oil containment boom has been permanently installed at the discharge of the primary station yard drain. The boom would be removed only for its own maintenance or prior to extreme storm conditions.
7. Station Environmental Laboratory (NUEL) resources are available in the event of oil spills to navigable water. This includes use of boats, deployment booms, and oil absorbent materials for rapid containment and cleanup of spills.
8. Outside vendors are also available for assistance during major spill cleanups.

D. Conformance with Applicable Guidelines

1. Facility Drainage Site Plan (Attached)

1.1 Inplant Drainage

Plant floor drain systems in areas where there are potential sources of oil leakage are collected in oil separating sumps. Samples of the sump contents are monitored and visually inspected to determine the presence of oil.

1.2 Yard Drainage

Yard drainage is collected in catch basins. In order for oil to reach these yard drain basins, there would have been equipment failure, (transformer/switchgear) which in most cases would have alarmed in the control room or otherwise be under surveillance of an attendent. Yard drainage gradients are shown on Figure 1.

2. Oil Storage

2.1 Underground oil storage tanks are listed in Table 1.

2.1.1 Each tank is precision tested on a schedule that at a minimum is in compliance with Connecticut regulatory requirements. In addition the tanks are visually inspected, when possible, from inside the tanks whenever tank cleaning is necessary.

2.1.2 Tank level indications

(a) Unit 1, 2 and 3 tank level readings are taken daily by the operating shift personnel and recorded for surveillance purposes.

(b) Level devices are checked on a scheduled frequency.

2.2 Outside above ground oil storage tanks (> 500 gallons) are listed in Table 2.

2.2.1 Oil Drum Storage locations are provided in areas where durm rupture or leakage would not result in spills to navigable waters.

2.2.2 The fuel oil truck storage location is provided in an area where truck leakage would not produce an oil release to the environment.

2.3 Oil Storage tanks (> 500 gallons) inside plant buildings are listed in Table 3.

2.3.1 Smaller quantities of oil are located in plant systems and equipment at various inside building locations. Drainage in these locations would past through an oil separator.

2.4 Underground oil/water separators.

2.4.1 Where floor drains are located in non-radiological oil storage areas, oil separators are provided in the discharge pathway to the environment.

2.4.2 Oil levels in separators are checked on scheduled planned maintenance intervals.

2.5 Floor drains in radiological areas are processed through the radioactive waste system. Minimum processing is filtration into a sample tank from which a laboratory sample is taken for analysis prior to a discharge permit being prepared. Any oil present in the samples is readily detectable. The presence of oil in a sample requires that the liquid be reprocessed.

2.6 Visible oil leaks from joints, valves, etc., are promptly repaired.

3. Facility Transfer Operations

3.1 Buried piping has a Bituminous coating. Cathodic protection is utilized where practical. Buried pipe will be inspected whenever a section of the pipe is exposed. Examinations and repair will be initiated as required.

3.2 Pipelines removed from service will be drained and isolated using blank flanges.

3.3 All above ground valves and pipelines are inspected periodically for preventive maintenance and observed daily by the operators during rounds.

3.4 Vehicular traffic is limited on site for security reasons Signs are provided to warn on site drivers of the location of sensitive above ground piping.

4. Facility for Tank Truck Unloading

4.1 Unloading procedures require that plant personnel be present to ensure that the oil is delivered to the correct tank and that there is sufficient space in the tank to receive the shipment. Plant personnel monitor the unloading and have absorbent materials available to them in the event of a small spill. Communications are maintained verbally and through use of local telephone.

4.2 Procedures require that the fill pipe be locked immediately after hose disconnect from the truck. The truck unloading station is located within an electrically operated gate and the truck cannot leave without permission from the security officer on duty.

E. Inspection and Records

Written procedures are provided where required. Results of all inspections will be recorded on appropriate data sheets and filed for reference.

F. Security

1. The facility is located within a fenced and monitored site. Gates are locked shut and under the control of the security force.
2. The starter control of all oil pumps is under the control of the operating personnel.
3. The loading connections are secured when not in use. Control of these connections is with the operating personnel.
4. Adequate lighting is provided for security and operating reasons.

4.1 Operating personnel observe the facility at least once per shift.

4.2 The entire facility is monitored continuously by security patrol.

G. Spill Prevention Procedures and Personnel Training

1. Oil Spill Response Procedures are part of the overall Millstone Emergency Plan. Emergency Plan Implementation Procedure (EPIP) 4503, Hazardous Waste, Toxic Substances, and Oil Spill Incident Contingency Plan specifies the response procedure. EPIP 4112, Incident Communciations, describes notification requirements for oil spills.
2. Personnel Training is provided via written procedure review, OJT Training and General Employee Training. Training records are retained in the Nuclear Training Department.

Oil Spill Clean-Up Service - List of Contractors

East Coast Environmental Services, Inc. (203) 469-2376
454 Quinnipiac Avenue
New Haven, CT 06503

Hitchcock Oil Pollution Systems (203) 334-4812
40 California Street
Bridgeport, CT

Sealand Environmental Services, Inc. (203) 735-1817
326 Derby Avenue
Derby, CT 06418

TABLE 1

UNDERGROUND OIL STORAGE TANKS

TANK	CATHODIC PROTECTION	BITUMASTIC COATING	NO.	CAPACITY/EACH
UNIT 1				
House Heating Oil Tanks	[X]	[X]	4	25,000 gal.
Jet Fuel Tank	[X]	[X]	2	25,000 gal.
Emergency Diesel Tank	[X]	[X]	1	25,000 gal.
UNIT 2				
Diesel Fuel Tank	[X]	[X]	1	25,000 gal.
Maint. House Heating Oil Tank	[ ]	[X]	1	1,000 gal.
UNIT 3				
House Heating Oil Tank	[X]	[X]	2	25,000 gal.
Diesel Oil Tanks (Vaulted)	[ ]	[ ]	2	37,500 gal.
SERVICE TANKS				
House Heating Oil	[ ]	[X]	1	8,000 gal.
House Heating Oil Bldg. 512	[ ]	[ ]	1	1,000 gal.
House Heating (Simulator)	[ ]	[ ]	1	4,000 gal.
Waste Oil Tank	[ ]	[ ]	1	3,000 gal.
Gasoline	[ ]	[ ]	1	4,000 gal.
House Heating Oil Bldg. 511	[ ]	[ ]	1	500 gal.
EOF Diesel Tank	[ ]	[X]	1	1,000 gal.

TABLE 2

ABOVE GROUND OUTSIDE OIL STORAGE TANKS > 500 GAL

TANK	SECONDARY CONTAINMENT	NO	CAPACITY/EACH
UNIT 1			
Main Electrical Transformer	Underground Dike	1	22,500 gal.
Norm Sta. Serv.Transformer	Underground Dike	1	4,425 gal.
Aux. Transformer	Underground Dike	1	11,000 gal.
Emerg. Sta. Serv. Transformer	Underground Dike	1	1,540 gal.
UNIT 2			
Main Electrical Transformer	Underground Dike	1	17,470 gal.
Norm Sta Serv Transformer	Underground Dike	1	16,172 gal.
Reserve Sta Serv Transformer	Underground Dike	1	4,800 gal.
UNIT 3			
Main Electrical Transformer	Underground Dike	2	6,500 gal. each
Norm Sta Serv. Transformer	Underground Dike	2	3,353 gal. each
Reserve Sta Serv. Transformer	Underground Dike	2	3,290 gal. each
MISC.			
Diesel Fuel Oil Supply Truck	Crushed Stone	1	2,000 gal.
Spare Main Elec Transformer*	Crushed Stone	1	15,120 gal.
Spare Reserve Sta Serv Trans.	Crushed Stone	1	14,000 gal.

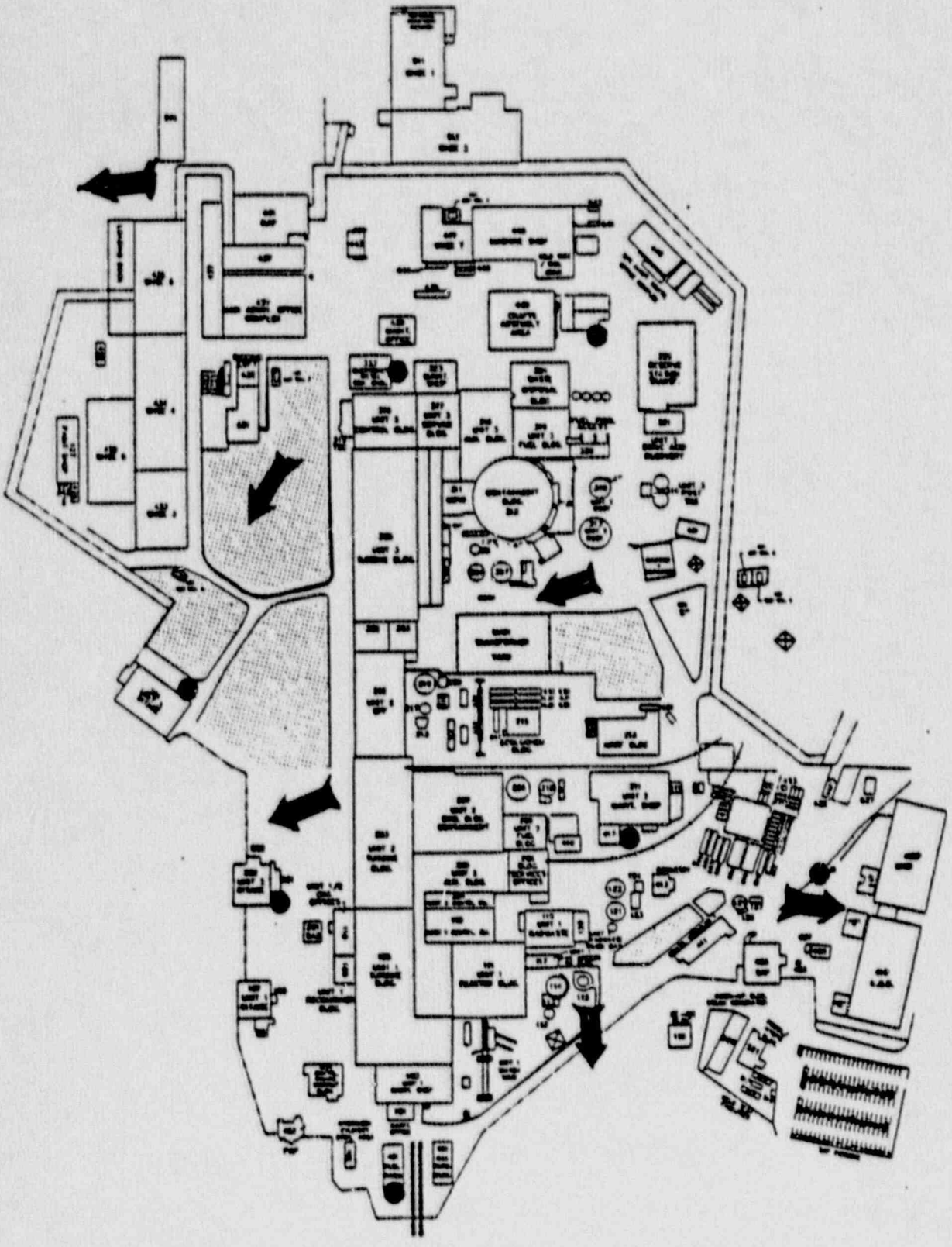
*Temporily stored in Unit 1 Switchyard in preparation for change out.

TABLE 3

OIL STORAGE TANKS (> 500 GALLONS) LOCATED INSIDE PLANT BUILDINGS

	NAME	NO.	CAPACITY(GAL.)
UNIT 1			
	Gas Turbine Lube Oil	1	730
	Main Turb Lube Oil Reservoir	1	7,100
	Dirty Lube Oil Tank	1	7,200
	Clean Lube Oil Tank	1	7,200
	Bowser Filter Operating Level	1	953
	Unit 1 Diesel Day Tank	1	1,610
UNIT 2			
	Main Turb Lube Oil Reservoir	1	20,000
	Main Turb Lube Oil Reservoir	1	6,400
	Clean Lube Oil Tank	1	7,000
	Dirty Lube Oil Tank	1	7,000
	S/G PMP Lube Oil Tank	2	1,020
	Diesel Fuel Oil Day Tank	2	13,600
	EHC System Reservoir	1	800
UNIT 3			
	Turb Lube Oil Reservoir	1	7,000
	Turb Oil Conditioner Tank	1	1,000
	Turb Waste Oil Sump	1	1,000
	Turb Clean Oil Tank	1	12,000
	Turb Dirty Oil Tank	1	12,000
	EHC System Resevoir	1	800

FIGURE 1



MILLSTONE SITE PLAN
1/12/88

Drainage Gradient

Oil Spill Kits

CERTIFICATION

Re: Millstone Nuclear Power Station

I hereby certify that in accordance with 40 CFR Section 112.3(d), I have examined the facility named above, that I am familiar with the provisions of 40 CFR Part 112, and that this plan has been prepared in accordance with good engineering practices.

Signed: Ramachandra P. Patel

Registered Professional Engineer, State of Connecticut # 10572

Date: 8/9/88

CERTIFICATION

Re: Millstone Nuclear Power Station

I hereby certify that in accordance with 40 CFR Section 112.3(d), I have examined the facility named above, that I am familiar with the provisions of 40 CFR Part 112, and that this plan has been prepared in accordance with good engineering practices.

Signed: Ramachandra R Patel

Registered Professional Engineer, State of Connecticut # 10592

Date: 8/9/88

ENCLOSURE II

Composite Mark-up Indicating Requested
Changes Listed in Cover Letter
(D03156)

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

NPDES PERMIT

RECEIVED

SEP 9 1985

SENIOR VICE PRESIDENT
Nuclear Engineering & Operations

Northeast Nuclear Energy Company
P.O. Box 270
Hartford, Conn. 06101

Re: DEP/WPC-152-003
Town of Waterford
Long Island Sound Watershed

Attention: Mr. R. A. Neckert, Vice President

This permit modification is issued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes and Section 402(b), Federal Water Pollution Control Act, as amended 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1983, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a Natural Pollutant Discharge Elimination System (hereinafter "NPDES") permit program.

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 125 and 423 of the effluent guidelines and standards.

The Commissioner of Environmental Protection (hereinafter "the Commissioner") has determined that the effluent limitations which would require the use of cooling systems at the Millstone Nuclear Power Station, Units 1, 2 and 3 other than the once-through system proposed by the applicant for the control of the thermal component of the applicant's discharge are more stringent than necessary to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the receiving waters. In view of this find, the Commissioner has herein established alternative and less stringent effluent limitations in accordance with Section 316(a) of the Clean Water Act.

However, the Commissioner has also determined that additional evidence based upon actual operating experience of Millstone Nuclear Power Station, Units 1, 2 and 3 would be desirable in order to corroborate the Commissioner's findings. The Commissioner expressly reserves the right to impose more stringent effluent limitations with respect to the thermal component of the Company's discharge pursuant to Section 22a-430 of Chapter 446k, Connecticut General Statutes should further investigation of the effect of the Company's discharge fail to corroborate the Commissioner's determination that more stringent effluent limitations are not necessary to assure the protection and propagation of a balanced indigenous population of the shellfish, fish and wildlife in and on the receiving waters.

The Commissioner has determined that the location, design, construction and capacity of the cooling water intake structure represents the best available technology for minimizing adverse environmental impact from impingement and entrainment pursuant to Section 316(b) of the Federal Act. The Commissioner has also determined that additional evidence based upon actual operating experience of Millstone Nuclear Power Station, Units 1, 2 and 3 would be desirable in order to corroborate the Commissioner's findings.

Such data will be generated by the studies to be conducted pursuant to paragraphs 5 and 12 of this permit. The Commissioner further finds in this instance that no such determination is necessary at this time to carry out the purposes of the Federal Act pursuant to Section 402(a)(1) thereof.

The Company should take cognizance of the fact that additional evidence may result in the imposition of more stringent effluent limitations requiring the potential utilization of a cooling system other than one proposed. Accordingly, the company should take this potential into consideration in their design wherever feasible.

The Commissioner has found that the systems installed for the treatment of the non-thermal discharges will protect the waters of the state from pollution. This action is further found to be consistent with the applicable policies of the Connecticut Coastal Management Act (Section 22a-92 of the Connecticut General Statutes, as amended by Section 2 of Public Act 79-535).

The Commissioner has determined in the absence of any applicable effluent standards or limitations issued or approved under the Clean Water Act that the treatment facilities for non-thermal discharges constitute best available technology economically achievable using the standard of best professional judgment.

The Commissioner hereby finds that The Northeast Nuclear Energy Company is maintaining a facility known as Millstone Nuclear Power Station, described in the reapplication package dated November 15, 1984.

The Commissioner, acting under Section 22a-430 hereby permits Northeast Nuclear Energy Company, Millstone Nuclear Power Station, to take such action as is necessary to:

1. Insure that all wastewaters generated by the activities of The Northeast Nuclear Energy Company, Millstone Nuclear Power Station Unit Nos. 1 and 2, described in the above-referenced reapplication are collected, treated and discharged in accordance with associated engineering documents, correspondence and other date submitted to comply or obtained to verify compliance with the permits issued by the Director of Water Compliance on May 24, 1974 and/or discharged in accordance with this permit.

2. Insure that all wastewaters which will be generated by the operating activities carried on at the Millstone Nuclear Power Station Unit No. 3 described in the above referenced reapplication will be collected, treated and discharged in accordance with plans and specifications submitted for the approval of the Commissioner together with associated engineering documents, correspondence and other data submitted to comply or obtained to verify compliance with this permit.

3. Insure that all discharges described in this permit (after giving credit for condition of intake water, where applicable) shall not exceed and shall otherwise conform to the specific terms and general conditions specified herein.

   A) Discharge Serial No. 001
   Receiving Stream - Long Island Sound (Basin Code 2000)
   Present/Future Water Quality Standard - SA/SA
   Description - Discharge Points at Quarry Cut (East and West)
   (Code 102000a)
   Average Daily Flow - 2,696,000,000 gallons
   Maximum Temperature - 105°F

      1) The maximum temperature increase at the Quarry Cut above the intake water temperature shall be 32°F.

      2) The differential temperature increase at the Quarry Cut above the intake water temperature under unusual conditions may be increased to 40°F for a period not exceeding 24 hours. In the event the temperature differential exceeds 32°F, the Department of Environmental Protection shall be immediately notified and a written report of the incident filed.

      3) The permittee shall operate all facilities in such a manner as not to raise the average temperature of the receiving waters more that 4°F or increase the normal temperature of the receiving waters above 83°F. For purposes of this condition, cognizance will be given to reasonable time and distance to allow mixing of effluent and receiving waters, but the boundary of the mixing zone shall not exceed a radius of 8,000 feet from the discharge outlet at the quarry cut.

      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 5.0 mg/l as a result of such discharge.

6) Discharge Serial Nos. 001, 001A, 001B and 001C shall:

a) Have a pH between 6.0 and 9.0 (Code 609).

b) Not contain as a result of additions from process operations any visible oil sheen, foam, sludge deposits, grease, scum or cause silt or sand deposits other than of natural origin.

c) Not contain more that 0.1 milliliters per liter settleable solids above the intake water concentration.

7) The residual chlorine concentration in the discharge at the Quarry Cut shall not exceed 0.1 mg/l (Code 503).

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

B) Discharge Serial No. 001A
Description - Unit No. 1 Discharge (Code 102000a)
Average Daily Flow - 604,800,000 gallons per day
Maximum Temperature - 105°F
Average Design Temperature Increase - 22.5°F

1) The maximum temperature increase at the Unit No. 1 discharge above the intake water temperature shall be 32°F.

2) The differential temperature increase at the Unit No. 1 discharge above the intake water temperature may be increased to 44°F for a period not exceeding 24 hours under conditions of reduced cooling water flow. In the event the temperature differential exceeds 32°F, the Department of Environmental Protection shall be notified in the monthly monitoring report.

3) The normal operating procedures include, usually not more that 12 times a year, the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels. The true temperature difference between the receiving stream and discharge water shall be allowed to exceed the permit limit for brief periods during this treatment schedule.

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Maximum Daily Concentration
Free Available Chlorine	510	229.21 kg/day	573.04 kg/day	0.25 mg/l

30,000

C) Discharge Serial No. 001A-1
Description - Unit No. 1 Waste Sampling Tank Discharge (Code 1170000)
MAXIMUM → Average Flow per Batch - 25,000 gallons per batch
Expected Frequency of Discharge - Once per day
Temperature - Ambient

14,000

D) Discharge Serial No. 001A-2
Description - Unit No. 1 Floor Drain Sample Tank Discharge (Code 153000N)
MAXIMUM → Average Flow per Batch - 14,000 gallons per batch
Expected Frequency of Discharge - Once per day
Temperature - Ambient

Parameter	Code	Average Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Total Suspended Solids	614	1.14 kg/day	30.0 mg/l	45.0 mg/l

1) The maximum concentration specified above shall not be exceeded at any time.

ADD
001A-2(a)
001A-2(b)

E) Discharge Serial No. 001A-3
Description - Unit No. 1 Makeup Demineralizer Backwash Wastewater Discharge (Code 1060000)
Average Flow per Batch - 4,200 gallons per batch
Expected Frequency of Discharge - Once per day
Temperature - Ambient

Parameter	Code	Average Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Total Suspended Solids	614	0.48 kg/batch	30.0 mg/l	45.0 mg/l

1) The maximum concentration specified above shall not be exceeded at any time.

SEE PAGE 5 OF COVER LETTER

F) Discharge Serial No. 001A-4
Description - Unit No. 1 Decontamination Solution Tank Discharge (Code 1060000)
Average Flow per Batch - 3,500 gallons per batch
Expected Frequency of Discharge - Once per day
Temperature - Ambient

Parameter	Code	Maximum Quantity Per Batch
Boric Acid	106	7.6 kg

30,000

G) Discharge Serial No. 001A-5
Description - Unit No. 1 Auxiliary Heat Exchanger (Service Water) Discharge Code (102000C)
MAXIMUM → Average Flow per Batch - 21,000 gallons per minute
Maximum Temperature - 90° F ← 90°

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Average Daily Concentration	Maximum Daily Concentration
Free Available Chlorine	510	*	28.65 kg/day	*	0.25 mg/l

* To be modified in accordance with the engineering reports as approved by the Commissioner and required under Step A of Order No. 4107.

DELETE →

H) Discharge Serial No. 001A-5(a)
Description - Unit No. 1 Makeup Evaporator Discharge Discharged to Discharge Serial No. 001A-5) (Code 1060000)
Average Flow - 30 gallons per minute
Maximum Temperature - 124° F

820,000,000

I) Discharge Serial No. 001B
Description - Unit No. 2 Discharge (Code 102000d)
MAXIMUM → Average Daily Flow - 731,000,000 gallons
Maximum Temperature - 105° F
Average Design Temperature Increase - 24° F

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Maximum Daily Concentration
Free Available Chlorine	510	298.65 kg	737.15 kg	0.25 mg/l
Hydrazine	651		109.3 kg	0.10 mg/l
Boric Acid	106		1281.0 kg	1.00 mg/l

REQUEST REMOVAL → Hydrazine, Boric Acid

1) The maximum temperature increase at the Unit No. 2 discharge above the intake water temperature shall be 32° F.

2) The differential temperature increase at the Unit No. 2 discharge above the intake water temperature may be increased to 44° F for a period not exceeding 24 hours under conditions of reduced cooling water flow. In the event the temperature increase exceeds 32° F, the Department of Environmental Protection shall be notified in the monthly monitoring report.

3) The normal operating procedures include, usually not more than 12 times a year, the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels. The true temperature difference between the receiving stream and discharge water shall be allowed to exceed the permit limit for brief periods during this treatment schedule.

J) Discharge Serial No. 001B-1
Description - Unit No. 2 Blowdown Tank and Blowdown Quench Tank Discharge (including boric acid from steam generator treatment)
Average Daily Flow - 412,000 gallons per day
Temperature - 220°F

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Average Daily Concentration	Maximum Daily Concentration
Boric Acid	106		117 kg/day		
Tot Suspended Solids	614	23.4 kg/day	46.8 kg/day	15.0 mg/l	30.0 mg/l

1) The maximum concentration specified above shall not be exceeded at any time.

K) Discharge Serial No. 001B-1(a)
Description - Unit No. 2 steam generator secondary Side Wet Layup Drainage
Average Batch Flow - 135,000 gallons per day
Maximum Flow rate - 100 gallons per minute
Temperature - Ambient

150°F

Parameter	Code	Maximum Concentration*
Hydrazine	651	200.0 mg/l

*At any time

125.0

1) A minimum of two (2) condenser circulating pumps shall be in service during a discharge of steam generator secondary side wet layup.

2) No two (2) steam generators may discharge secondary side wet layup drainage simultaneously.

L) Discharge Serial No. 001B-2
Description - Unit No. 2 Aerated Waste Monitor Tank Discharge
Average Batch Flow - 4,500 gallons per batch
Expected Frequency Discharge - Twice per day
Temperature - Ambient

Parameter	Code	Maximum Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Total Suspended Solids	614		30.0 mg/l	45.0 mg/l
Boric Acid	106	200.0 kg/batch		

1) A minimum of two (2) condenser circulating pumps shall be in service on Unit 2 during discharge.

2) The maximum concentration specified above shall not be exceeded at any time.

M) Discharge Serial No. 001B-2(a)
Description - Unit No. 2 Steam Generator Chemical Cleaning Wastewater
(Code 101059y)
Total Flow - 107,000 gallons

Parameter	Code	Maximum Daily Concentration
Copper	111	1.0 mg/l
Iron	113	1.0 mg/l
Cadmium	107	0.1 mg/l
Chromium (Total)	109	1.0 mg/l
Lead	114	0.1 mg/l
Nickel	119	1.0 mg/l
Zinc	127	1.0 mg/l
Oil and Grease	622	10.0 mg/l

1) A minimum of two (2) condenser circulating pumps shall be in service on Unit 2 during discharge.

2) The maximum concentration specified above shall not be exceeded at any time.

N) Discharge Serial No. 001B-2(b)
Description - Unit No. 2 Steam Generator Chemical Decontamination Wastewater.
(Code 101059y)
Total Flow - 30,000 gallons
Temperature - Ambient

Parameter	Code	Maximum Daily Concentration
Copper	111	1.0 mg/l
Iron	113	1.0 mg/l
Cadmium	107	0.1 mg/l
Chromium (Total)	109	1.0 mg/l
Lead	114	0.1 mg/l
Nickel	119	1.0 mg/l
Zinc	127	1.0 mg/l
Oil and Grease	622	10.0 mg/l
TSS	614	30.0 mg/l

1) The pH of the discharge shall not be less than 6.0 or greater than 9.0. (Code 609)

2) The steam generator chemical decontamination process is limited to the use of chemical reagents listed in the permit modification application submitted to the Director of Water Compliance on April 17, 1986. Thirty days prior to performing chemical decontamination of the steam generator the permittee must notify the Director of Water Compliance of the exact process to be used.

O) Discharge Serial No. 001B-3
Description - Unit No. 2 Coolant Waste Monitor Tank Discharge (Code 1170000)
Average Flow per Batch - 30,000 gallons per batch
Expected Frequency of Discharge - Once per day
Temperature - Ambient

Parameter	Code	Maximum Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Boric Acid	106	700.0 kg/batch		
Total Suspended Solids	614		15.0 mg/l	22.5 mg/l

1) If at any time the boric acid evaporator is not functional and the boric acid concentration exceeds 30 mg/l, a minimum of two (2) condenser circulating pumps shall be in service on Unit 2 during discharge.

2) The maximum concentration specified above shall not be exceeded at any time.

P) Discharge Serial No. 001B-4
Description - Unit No. 2 Makeup Demineralizer Backwash Wastewater Discharge (Code 1060000)
Average Flow per Batch - 9,500 gallons per batch
Expected Frequency of Discharge - Once per day
Temperature - Ambient

DELETE

Parameter	Code	Average Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Total Suspended Solids	614	1.08 kg/batch	30.0 mg/1	45.0 mg/1

DELETE

1) The maximum concentration specified above shall not be exceeded at any time.

Q) Discharge Serial No. 001B-5
Description - Unit No. 2 Auxiliary Heat Exchanger (Service Water) Discharge (Code 102000d)
Average Flow - 10,000 gallons per minute
Maximum Temperature - 85°F

20,000

95°

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Average Daily Concentration	Maximum Daily Concentration
Free Available Chlorine	510	*	13.64 kg/day	*	0.25 mg/1

*To be modified in accordance with the engineering reports as approved by the Commissioner and required under Step A of Order No. #107.

R) Discharge Serial No. 001B-6
Description - Unit No. 2 Condensate Polisher Regeneration Wastewater Neutralization Tank Discharge (including boric acid from steam generator treatment) Including System Floor Drains (Code 1060000)
Average Flow per Batch - 25,000 gallons per batch
Expected Frequency of Discharge - Twice per day
Temperature - Ambient

ADD "INCLUDING PLANT EQUIPMENT WASH WATER THAT MAYBE CORROSIVE BUT IS NOT HAZARDOUS BY ANY OTHER CHARACTERISTIC"

Parameter	Code	Maximum Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Boric Acid	106	32 kg/batch		
Total Suspended Solids	614		30.0 mg/1	45.0 mg/1
Oil and Grease	622		10.0 mg/1	20.0 mg/1

1) The maximum concentration specified above shall not be exceeded at any time.

S) Discharge Serial No. 001B-7
Description - Unit No. 2 Condensate Polisher Auxiliary Heat Exchanger (Service Water) Discharge (Code 102000c)
Average Flow - 4,000 gpm
Maximum Temperature - 85°F

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Average Daily Concentration	Maximum Daily Concentration
Free Avail. Chlorine	510	*	5.46 kg/day	*	0.25 mg/l

*To be modified in accordance with the engineering reports as approved by the Commissioner and required under Step A of Order No. 4107.

1) This discharge will occur only when effluent from Discharge Serial No. 001B-6 is being evaporated instead of discharged.

T) Discharge Serial No. 001B-9
Description - Unit No. 2 Non-contaminated closed cooling water system drainage
Average Flow Rate - 10 gallons per minute
Maximum Daily Flow - 25,000 gallons per day
Temperature - Ambient

ADD 001B-8

DELETE

30,000

100°F

Parameter	Code	Maximum Concentration*
Hydrazine	651	75.0 mg/l

*At any time

1) A minimum of two (2) condenser circulating pumps shall be in service on Unit 2 during discharge.

U) Discharge Serial No. 001C
Description - Unit No. 3 Discharge Code (102000d)
Average Daily Flow - 1,313,200,000 gallons
Maximum Temperature - 98°F
Average Design Temperature Increase - 18°F

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Maximum Daily Concentration
Free Avail. Chlorine	510	553.7 kg/day	1386 kg/day	0.25 mg/l
Hydrazine	651		116.4 kg/day	0.10 mg/l
Boric Acid	106		2400.0 kg/day	1.50 mg/l

REQUEST REMOVAL

1) The maximum temperature increase at the Unit No. 3 discharge above the intake water temperature shall be 24°F.

2) The differential temperature increase at the Unit No. 3 discharge above the intake water temperature under conditions of reduced cooling water flow may be increased to 30°F for a period not exceeding 24 hours. In the event the temperature differential exceeds 24°F, the Department of Environmental Protection shall be notified in the monthly monitoring report.

3) The normal operating procedures include, usually not more than 12 times a year, the elevation of the intake water temperature on each condenser by a thermal backwash process required for the control of sea mussels. The true temperature difference between the receiving stream and discharge water shall be allowed to exceed the permit limit for brief periods during this treatment schedule.

4) Chlorine will be used to control biofouling in the event of malfunction or inadequate performance of the mechanical condenser cleaning system. It may also be required to prevent biofouling of the ball collection device.

V) Discharge Serial No. 001C-1
Description - Unit No. 3 Steam Generator Blowdown Discharge (Code 1170000)
Average Daily Flow - 576,000 gallons
Maximum Temperature - 220°F

Parameter	Code	Average Daily Quantity	Average Daily Concentration	Maximum Concentration
Total Suspended Solids	614	65.5 kg/day	30.0 mg/l	60.0 mg/l

1) The maximum concentration specified above shall not be exceeded at any time.

W) Discharge Serial No. 001C-1(a)
Description - Unit No. 3 Steam Generator Secondary Side Wet Layup Drainage
Average Flow Rate - 135,000 gallons per day
Maximum Daily Flow - 100 gallons per minute
Temperature - Ambient

Parameter	Code	Maximum Concentration*
Hydrazine	651	~~200.0~~ 125.0 mg/l

*At any time

1) A minimum of two (2) condenser circulating pumps shall be in service during a discharge of steam generator secondary side wet layup.

2) No two steam generators may discharge secondary side wet layup drainage simultaneously.

X) Discharge Serial No. 001C-2
Description - Unit No. 3 Waste Test Tank Discharge (Code 153000N)
Average Flow per Batch - 21,000 gallons per batch
Expected Frequency of Discharge - Twice per day
Temperature - Ambient

MAXIMUM → Average

25,000

Parameter	Code	Maximum Quantity Per Batch
Boric Acid	106	800 kg

1) A minimum of two (2) condenser circulating pumps shall be in service on Unit 3 during discharge.

Y) Discharge Serial No. 001C-3
Description - Low Level Waste Drain Tank Discharge (Code 1170000)
Average Flow per Batch - 4,000 gallons
Expected Frequency of Discharge - Four times per day
Temperature - Ambient

MAXIMUM → Average

5,000

Parameter	Code	Maximum Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Boric Acid	106	200.0 kg/batch		
Total Suspended Solids	614		30.0 mg/l	45.0 mg/l

1) If at any time the boric acid evaporator units are not functional and the boric acid concentration exceeds 30 mg/l, a minimum of two (2) condenser circulating pumps shall be in service on Unit 3.

CHANGE TO → Average

MAXIMUM

Z) Discharge Serial No. 001C-4
Description - Unit No. 3 Makeup Demineralizer Backwash
Wastewater Discharge Including Auxiliary Boiler Stack Drain Discharge. (Code 1060000)
Average Flow per Batch - 80,000 gallons
Expected Frequency of Discharge - Once per day
Temperature - Ambient

"INCLUDING FEEDWATER SYSTEM WET LAY-UP DRAINAGE AND AUXILIARY BOILER STACK DRAINAGE DISCHARGE"

Parameter	Code	Average Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Total Suspended Solids	614	9.09 kg/batch	30.0 mg/l	45.0 mg/l

1) The maximum concentrations specified above shall not be exceeded at any time.

AA) Discharge Serial No. 001C-5
Description - Unit 3 Auxiliary Heat Exchanger (Service Water) Discharge (Code 102000d)
Average Flow - 30,000 gallons per minute
Maximum Temperature - 90°F 100°

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Average Daily Concentration	Maximum Daily Concentration
Free Available Chlorine	510	*	40.93 kg/day	*	0.25 mg/l

*To be modified in accordance with the engineering reports as approved by the Commissioner and required under Step A of Order No. 4107.

BB) Discharge Serial No. 001C-6
Description - Unit 3 Condensate Polisher Regeneration Wastewater Neutralization Tank Discharge Including System Floor Drains and Unit No. 3 Hot water heating system drainage. (Code 1060000)
SEE PAGE 6 OF COVER LETTER
Average Flow per Batch - 25,000 gallons per batch
Expected Frequency of Discharge - Twice per day
Temperature - Ambient 100°F

Parameter	Code	Average Quantity Per Batch	Average Concentration Per Batch	Maximum Concentration Per Batch
Total Suspended Solids	614	2.83 kg/batch	30.0 mg/l	45.0 mg/l
Oil and Grease	622	0.94 kg/batch	10.0 mg/l	20.0 mg/l
Hydrazine	651		30.0 mg/l	75.0 mg/l

1) The maximum concentration specified above shall not be exceeded at any time.

CC) Discharge Serial No. 001C-6(a)
Description - Unit No. 3 Steam Generator Chemical Decontamination Wastewater.
Average Daily Flow - 40,000 gallons per day
Temperature - Ambient

Parameter	Code	Maximum Daily Concentration
Copper	111	1.0 mg/l
Iron	113	1.0 mg/l
Cadmium	107	0.1 mg/l
Chromium (Total)	109	1.0 mg/l
Lead	114	0.1 mg/l
Nickel	119	1.0 mg/l
Zinc	127	1.0 mg/l
Oil and Grease	622	10.0 mg/l
TSS	614	30.0 mg/l

1) The pH of the discharge shall not be less than 6.0 or greater than 9.0. (Code 609)

2) The steam generator chemical decontamination process is limited to the use of chemical reagents listed in the permit modification application submitted to the Director of Water Compliance on April 17, 1986. Thirty day prior to performing chemical decontamination of the steam generator the permittee must notify the Director of Water Compliance of the exact process to be used.

DD) Discharge Serial No. 001C-6(b)
Description - Unit No. 3 Auxiliary Boiler Blowdown
Maximum Flow Rate - 10 gallon per minute
Maximum Daily Flow - 14,400 gallons per day
Maximum Temperature - 210°F

CHANGE TO "UNIT NO. 3 AUXILIARY BOILER BLOWDOWN SUMP DISCHARGE"

50

Parameter	Code	Maximum Concentration*
Hydrazine	651	75.0 mg/l

*At any time

EE) Discharge Serial No. 001C-7
Description - Unit No. 3 Condensate Polisher Auxiliary Heat Exchanger (Service Water) Discharge (Code 02000c)
Average Flow - 4,000 gpm
Maximum Temperature - 85°F

DELETE

Parameter	Code	Average Daily Quantity	Maximum Daily Quantity	Average Daily Concentration	Maximum Daily Concentration
Free Available Chlorine	510	*	5.46 kg/day	*	0.25 mg/l

*To be modified in accordance with the engineering reports as approved by the Commissioner and required under Step 4 of Order No. 4107.

DELETE

1) This discharge will occur only when effluent from Discharge Serial No. 001C-6 is being evaporated instead of discharged.

FF) Discharge Serial No. 001C-8
Description - Unit No. 3 Condenser Hotwell Discharge (1170000)
Average Flow per Batch - 100,000 gallons
Expected Frequency of Discharge - Five times per year
Maximum Temperature - 112°F

Parameter	Code	Average Daily Concentration	Maximum Concentration
Iron	113	3.0 mg/l	5.0 mg/l
Total Suspended Solids	614	30.0 mg/l	45 mg/l

GG) Discharge Serial No. 001C-9
Description - Unit No. 3 Non-contaminated closed cooling water system drainage.

DELETE

Average Flow Rate - 10 gallons per minute
Maximum Daily Flow - 25,000 gallons pr day → 30,000
Temperature - Ambient → 100°F

Parameter	Code	Maximum Concentration*
Hydrazine	651	75.0 mg/l

1) A minimum of two condenser circulation pumps shall be in service during a discharge of closed cooling water system drainage.

*At any time.

HH) Discharge Serial No. 002
Description - Unit No. 1 Screen Washwater Discharge (Code 106000)
Receiving Stream - Niantic Bay (Basin code 2000)
Present/Future Water Quality Standard - SA/SA
Average Daily Flow - 252,000 gallons
Maximum Daily Flow - 2,016,000 gallons
Temperature - Ambient

II) Discharge Serial No. 003
Description - Unit No. 2 Screen Washwater Discharge (Code 106000)
Receiving Stream - Niantic Bay (Basin code 2000)
Present/Future Water Quality Standard - SA/SA
Average Daily Flow - 317,000 gallons
Maximum Daily Flow - 2,540,000 gallons
Temperature - Ambient

JJ) Discharge Serial No. 004
Description - Unit No. 3 Screen Washwater Discharge (Code 106000)
Receiving Stream - Niantic Bay (Basin code 2000)
Present/Future Water Quality Standard - SA/SA
Average Daily Flow - 720,000 gallons
Maximum Daily Flow - 5,760,000 gallons
Temperature - Ambient

KK) Discharge Serial No. 005
Description - Unit No. 1 Non-contaminated Floor Drain, Transformer Yard Drains and Surface Water Runoff (Code 1080000)
Receiving Stream - Long Island Sound via Quarry Cut (Basin Code 2000)
Present/Future Water Quality Standard - SA/SA
Flow - Variable
Temperature - Ambient

ADD "WATER WASH3, CLEAN WATER DRAINS"

Parameter	Code	Average Daily Concentration	Maximum Concentration
Oil and Grease	622	10.0 mg/l	20.0 mg/l

(1) The maximum concentration specified above shall not be exceeded at any time.

LL) Discharge Serial No. 006
Description - Unit No. 2 and 3 Non-contaminated Floor Drains (including boric acid from steam generator treatment) Continuous blowdown from R.O. Treatment of makeup water, Unit No. 2 and 3 Diesel Generator cooling water drainage, Water Softener regeneration drainage, Unit No. 3 Control building cooling system drainage, and surface water runoff.
Receiving Stream - Niantic Bay (Basin code 2000)
Present/Future Water Quality Standard - SA/SA
Maximum Flow Rate - 300 gallons per minute, (excluding Surface Water Runoff).
Temperature - Ambient

Parameter	Code	Maximum Daily Quantity	Average Daily Concentration	Maximum Concentration
Boric Acid	106	8.1 kg/day		
Oil and Grease	622		10.0 mg/l	20.0 mg/l
Total Suspended Solids	614		20.0 mg/l	30.0 mg/l

(1) The maximum concentration specified above shall not be exceeded at any time.

2) The pH of the discharge (excluding Surface Water Runoff) shall not be less than 6.0 or greater than 9.0 (Code 609).

3) Total Suspended Solids parameter applies only to dry weather flows.

MM) Discharge Serial No. 007
Description - Surface Water Runoff
(Code 108000)
Receiving Stream - Niantic Bay via Settling Pond (Basin code 2000)
Present/Future Water Quality Standard - SA/SA
Flow - Variable
Temperature - Ambient

NN) Discharge Serial No. 008
Description - Unit No. 1 Non-contaminated Floor Drains and Surface Water Runoff (Code 1080000)
Receiving Stream - Niantic Bay (Basin code 2000)
Present/Future Water Quality Standard - SA/SA
Flow - Variable
Temperature - Ambient

Parameter	Code	Average Daily Concentration	Maximum Concentration
Oil and Grease	622	10.0 mg/l	20.0 mg/l

(1) The maximum concentration specified above shall not be exceeded at any time.

ADD
" WATER WASHES, CLEAN WATER DRAINS"

OO) Discharge Serial No. 009
Description - Unit No. 2 Non-contaminated Floor Drains, Fire Pump House Floor Drains, and Surface Water Runoff (Code 1080000)
Receiving Stream - Long Island Sound via Quarry Cut (Basin Code 2000)
Flow - Variable
Temperature - Ambient

Parameter	Code	Average Daily Concentration	Maximum Concentration
Oil and Grease	622	10.0 mg/l	20.0 mg/l

(1) The maximum concentration specified above shall not be exceeded at any time.

ADD
001
012
013
014
015
016

4) This permit authorizes the discharge of wastewater as described in Paragraph 3 above and in the permit application packages dated November 15, 1984, November 4, 1985 and April 17, 1986. The discharge of any pollutants other than those so authorized, or the discharge of any other pollutant, in quantities or concentrations which is not in accordance with the maintenance of best management practices for industrial chemicals at the facility is prohibited.

5) The permittee shall conduct or continue to conduct biological studies of the supplying and receiving waters, entrainment studies, and intake impingement monitoring. The studies shall include studies of intertidal and subtidal benthic communities, finfish communities, and entrained plankton and shall include detailed studies of lobster populations and winter flounder populations.

6) Monitor and record the following for the purpose of reporting quality and quantity of each discharge according to the following schedule:

A) Monitoring Site No. 01

Unit Nos. 1, 2 and 3 Intakes (Before Condensers)

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Flow	627	Hourly	Instantaneous
Temperature (^{o}F)	612	Hourly	Instantaneous
Settleable Solids	610	Weekly	Grab

B) Discharge Serial No. 001

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Flow	627	Hourly	Instantaneous
pH	609	Hourly	Instantaneous
Temperature (^{o}F)	612	Hourly	Instantaneous
Settleable Solids	610	Weekly	Grab
Free Available Chlorine	510	Weekly	Grab
Total Residual Chlorine	503	Weekly	Grab

Report the following data:

1) Daily range of pH
2) Daily range of flow
3) Daily maximum temperature (^{o}F)
4) Daily minimum temperature
5) Daily average temperature
6) Monthly standard deviation of temperature
7) Daily maximum temperature increase
8) Daily minimum temperature increase
9) Daily average temperature increase
10) Monthly standard deviation of temperature increase
11) Monthly maximum heat load (BTU/hr.)
12) Monthly minimum heat load
13) Monthly average heat load
14) Monthly maximum rate of change of heat load
15) Monthly standard deviation of heat load
16) Radioactive liquid releases

REQUEST REMOVAL

a) Gross radioactivity (less tritium, gases and alpha)
   1) total release (curies)
   2) average concentration released (uCi/ml)

b) Tritium
   1) total release (curies)
   2) average concentration released (uCi/ml)

c) Dissolved gases
   1) total release (curies)
   2) average concentration released (uCi/ml)

d) Gross alpha
   1) total release (curies)
   2) average concentration released (uCi/ml)

e) Volume of liquid waste discharged (liters)

f) Volume of dilution water (liters)

g) Isotopes released (curies)

h) Percent of 10 CFR 20, Appendix B, Table II for total release

i) Percent of technical specifications limit if different from 10 CFR 20, for the total release if such specifications are established by N.R.C.

C) Discharge Serial No. 001A

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Flow	626	Hourly	Instantaneous
pH	609	Hourly	Instantaneous
Temperature (^{o}F)	612	Hourly	Instantaneous
Settleable Solids	610	Weekly	Grab
Free Available Chlorine	510	Weekly	Grab

Report the following data:

1) Daily range of pH
2) Daily range of flow
3) Daily maximum temperature (^{o}F)
4) Daily minimum temperature
5) Daily average temperature
6) Monthly standard deviation of temperature
7) Daily maximum temperature increase
8) Daily minimum temperature increase
9) Daily average temperature increase
10) Monthly standard deviation of temperature increase
11) Monthly maximum heat load (BTU/hr.)

12) Monthly minimum heat load
13) Monthly average heat load
14) Monthly maximum rate of change of heat load
15) Monthly standard deviation of heat load
16) Radioactive liquid releases

REQUEST REMOVAL

a) Gross radioactivity (less tritium, gases and alpha)
   1) total release (curies)
   2) average concentration released (uCi/ml)

b) Tritium
   1) total release (curies)
   2) average concentration released (uCi/ml)

c) Dissolved gases
   1) total release (curies)
   2) average concentration released (uCi/ml)

d) Gross alpha
   1) total release (curies)
   2) average concentration released (uCi/ml)

e) Volume of liquid waste discharged (liters)

f) Volume of dilution water (liters)

g) Isotopes released (curies)

h) Percent of 10 CFR 20, Appendix B, Table II for total release

i) Percent of technical specifications limit if different from 10 CFR 20, for the total release if such specifications are established by N.R.C.

D) Discharge Serial No. 001A-1

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Specific Conductivity	611	Weekly	Grab
pH	609	Weekly	Grab

1) Record the total flow of batch discharge (Code 626)

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

E) Discharge Serial No. 001A-2

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

1) Record the total flow of batch discharge (Code 626)

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

F) Discharge Serial No. 001A-3

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

1) Record the total flow of batch discharge (Code 626)

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

SEE PAGE 3 OF COMPLETION →

G) Discharge Serial No. 001A-4 - No sampling point available

H) Discharge Serial No. 001A-5

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Free Available Chlorine	510	Weekly	Grab
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

REQUEST REMOVAL →

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

DELETE

I) Discharge Serial No. 001A-5(a)

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Specific Conductivity	611	Weekly	Grab

J) Discharge Serial No. 001B

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Flow	627	Hourly	Instantaneous
Temperature	612	Hourly	Instantaneous
pH	609	Hourly	Instantaneous
Settleable Solids	610	Weekly	Grab
Free Available Chlorine	510	Weekly	Grab
Biochemical Oxygen Demand	301	Daily-See Note 17	Grab
Chemical Oxygen Demand	303	Daily-See Note 17	Grab
Hydrazine	651	Daily-See Note 17	Grab

REQUEST REMOVAL

Report the following data:

1) Daily range of pH
2) Daily range of flow
3) Daily maximum temperature (^{o}F)
4) Daily minimum temperature
5) Daily average temperature
6) Monthly standard deviation of temperature
7) Daily maximum temperature increase
8) Daily minimum temperature increase
9) Daily average temperature increase
10) Monthly standard deviation of temperature increase
11) Monthly maximum heat load (BTU/hr.)
12) Monthly minimum heat load
13) Monthly average heat load
14) Monthly maximum rate of change of heat load
15) Monthly standard deviation of heat load
16) Radioactive liquid releases

REQUEST REMOVAL

a) Gross radioactivity (less tritium, gases and alpha)
   1) total release (curies)
   2) average concentration released (uCi/ml)

b) Tritium
   1) total release (curies)
   2) average concentration released (uCi/ml)

c) Dissolved gases
   1) total release (curies)
   2) average concentration released (uCi/ml)

d) Gross alpha
   1) total release (curies)
   2) average concentration released (uCi/ml)

e) Volume of liquid waste discharged (liters)

f) Volume of dilution water (liters)

g) Isotopes released (curies)

h) Percent of 10 CFR 20, Appendix B, Table II for total release

i) Percent of technical specifications limit if different from 10 CFR 20, for the total release if such specifications are established by N.R.C.

17) Sampling for Biochemical Oxygen Demand, Chemical Oxygen Demand and Hydrazine required only when discharging wastewaters containing Hydrazine.

K) Discharge Serial No. 001B-1

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
Boric Acid	106	See Note 3	Grab

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Monitor weekly for boric acid when boric acid treatment of steam generators occurs.

L) Discharge Serial No. 001B-1(a)

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Daily-See Note 3	Grab
Chemical Oxygen Demand	303	Daily-See Note 3	Grab
Hydrazine	651	Daily-See Note 3	Grab

REQUESTS REMOVAL

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Sampling required only when discharging steam generator secondary side wet layup drainage.

M) Discharge Serial No. 001B-2

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
Boric Acid	106	Weekly	Grab
pH	609	Weekly	Grab

SEE PAGE 8 OF COVER LETTER

1) The permittee shall record the total flow (Code 626) and the number of hours of discharge (Code 629) for each day of sample collection.

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

N) Discharge Serial No. 001B-2a

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Weekly	Composite
Chemical Oxygen Demand	303	Weekly	Composite
Ammonia	201	Weekly	Composite
Copper	111	Weekly	Composite
Iron	113	Weekly	Composite
Beryllium	105	Weekly	Composite
Cadmium	107	Weekly	Composite
Chromium (Total)	105	Weekly	Composite

Lead	114	Weekly	Composite
Nickel	119	Weekly	Composite
Zinc	127	Weekly	Composite
Oil and Grease	622	Weekly	Grab
pH	609	Weekly	Composite
Total Suspended Solids	614	Weekly	Composite

D) Discharge Serial No. 001B-2b

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Daily-See Note 1	Daily Composite
Chemical Oxygen Demand	303	Daily-See Note 1	Daily Composite
Citric Acid	637	Daily-See Note 1	Daily Composite
Oxalic Acid	638	Daily-See Note 1	Daily Composite
Nitric Acid	641	Daily-See Note 1	Daily Composite
Permanganate	648	Daily-See Note 1	Daily Composite
Ethylenediamine-tetraacetic Acid	650	Daily-See Note 1	Daily Composite
Hydrogen Peroxide	640	Daily-See Note 1	Daily Composite
Formic Acid	649	Daily-See Note 1	Daily Composite
Copper	111	Daily-See Note 1	Daily Composite
Iron	113	Daily-See Note 1	Daily Composite
Cadmium	107	Daily-See Note 1	Daily Composite
Chromium (Total)	109	Daily-See Note 1	Daily Composite
Lead	114	Daily-See Note 1	Daily Composite
Nickel	119	Daily-See Note 1	Daily Composite
Zinc	127	Daily-See Note 1	Daily Composite
Oil and Grease	622	Daily-See Note 1	Grab
pH	609	Daily-See Note 1	Range during Composite
Total Suspended Solids	614	Daily-See Note 1	Daily Composite

1) Sampling required only when discharging steam generator chemical decontamination wastewater. Sampling required for parameters included in the process approved by the Director of Water Compliance as per paragraph 3 (N) (2) of this permit.

2) Record the total flow (Code 626) at the time of composite sample collection.

3) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

P) Discharge Serial No. 001B-3

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
Boric Acid	106	Weekly	Grab
pH	609	Weekly	Grab

SEE PAGE 4 OF COVER LETTER →

1) The permittee shall record the total flow (Code 626) and the number of hours of discharge (Code 629) for each day of sample collection.

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

Q) Discharge Serial No. 001B-4

DELETE →

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

1) The permittee shall record the total flow (Code 626) and the number of hours of discharge (Code 629) for each day of sample collection.

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

R) Discharge Serial No. 001B-5

REQUIRES REMOVAL →

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Free Available Chlorine	510	Weekly	Grab
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

S) Discharge Serial No. 001B-6

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Oil & Grease	622	Monthly	Grab
Total Suspended Solids	614	Weekly	Grab
Boric Acid	106	See Note 3	Grab
pH	609	Weekly	Grab

1) Record the total flow of batch discharge (Code 626).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Monitor weekly for boric acid when boric acid treatment of steam generators occurs.

T) Discharge Serial No. 001B-7

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Free Available Chlorine	510	Weekly	Grab
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

REQUEST REMOVAL

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

U) Discharge Serial No. 001B-9

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Daily-See Note 3	Grab
Chemical Oxygen Demand	303	Daily-See Note 3	Grab
Hydrazine	651	Daily-See Note 3	Grab

REQUEST REMOVAL

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviation from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Sampling required only when discharging closed cooling water system drainage.

V) Discharge Serial No. 001C

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Flow	627	Hourly	Instantaneous
Temperature (^{o}F)	612	Hourly	Instantaneous
pH	609	Hourly	Instantaneous
Settleable Solids	610	Weekly	Grab
Free Available Chlorine	510	Weekly	Grab
Biochemical Oxygen Demand	301	Daily-See Note 17	Grab
Chemical Oxygen Demand	303	Daily-See Note 17	Grab
Hydrazine	651	Daily-See Note 17	Grab

REQUEST REMOVAL

Report the following data:

1) Daily range of pH
2) Daily range of flow
3) Daily maximum temperature (^{o}F)
4) Daily minimum temperature
5) Daily average temperature
6) Monthly standard deviation of temperature
7) Daily maximum temperature increase
8) Daily minimum temperature increase
9) Daily average temperature increase
10) Monthly standard deviation of temperature increase
11) Monthly maximum heat load (BTU/hr.)
12) Monthly minimum heat load
13) Monthly average heat load
14) Monthly maximum rate of change of heat load
15) Monthly standard deviation of heat load
16) Radioactive liquid releases

REQUEST REMOVAL

a) Gross radioactivity (less tritium, gases and alpha)
   1) total release (curies)
   2) average concentration released (uCi/ml)

b) Tritium
   1) total release (curies)
   2) average concentration released (uCi/ml)

c) Dissolved gases
   1) total release (curies)
   2) average concentration released (uCi/ml)

d) Gross alpha
   1) total release (curies)
   2) average concentration released (uCi/ml)

e) Volume of liquid waste discharged (liters)

f) Volume of dilution water (liters)

g) Isotopes released (curies)

h) Percent of 10 CFR 20, Appendix B, Table II for total release

i) Percent of technical specifications limit if different from 10 CFR 20, for the total release if such specifications are established by N.R.C.

17) Sampling for Biochemical Oxygen Demand, Chemical Oxygen Demand and Hydrazine required only when discharging wastewaters containing Hydrazine.

W) Discharge Serial No. 001C-1

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
Boric Acid	106	Weekly	Grab
pH	609	Weekly	Grab

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Monitor weekly for boric acid when boric acid treatment of steam generators occurs.

X) Discharge Serial No. 001C-1(a)

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Daily-See Note 3	Grab
Chemical Oxygen Demand	303	Daily-See Note 3	Grab
Hydrazine	651	Daily-See Note 3	Grab

REQUEST REMOVAL

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviation from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Sampling required only when discharging steam generator secondary side wet lay-up drainage.

Y) Discharge Serial No. 001C-2

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Boric Acid	106	Weekly	Grab
Lithium	133	Weekly	Grab
Specific Conductivity	611	Weekly	Grab
pH	609	Weekly	Grab

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

Z) Discharge Serial No. 001C-3

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
Boric Acid	106	Weekly	Grab
pH	609	Weekly	Grab

1) Record the total flow of batch discharge (Code 626).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

AA) Discharge Serial No. 001C-4

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

1) Record the total flow of batch discharge (Code 626).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

BB) Discharge Serial No. 001C-5

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Free Available Chlorine	510	Weekly	Grab
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

REQUEST REMOVAL

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

CC) Discharge Serial No. 001C-6

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Total Oil & Grease	622	Monthly	Grab
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab
Hydrazine	651	See Note 3	Grab

1) Record the total flow of batch discharge (Code 626).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Daily sampling required for Hydrazine when Unit No. 3 Hot Water Heating System is being discharged.

DD) Discharge Serial No. 001C-6(a)

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Daily-See Note 1	Daily Composite
Chemical Oxygen Demand	303	Daily-See Note 1	Daily Composite
Citric Acid	637	Daily-See Note 1	Daily Composite
Oxalic Acid	638	Daily-See Note 1	Daily Composite
Nitric Acid	641	Daily-See Note 1	Daily Composite
Permanganate	648	Daily-See Note 1	Daily Composite
Ethylenediamine-tetraacetic Acid	650	Daily-See Note 1	Daily Composite
Hydrogen Peroxide	640	Daily-See Note 1	Daily Composite
Formic Acid	649	Daily-See Note 1	Daily Composite
Copper	111	Daily-See Note 1	Daily Composite
Iron	113	Daily-See Note 1	Daily Composite
Cadmium	107	Daily-See Note 1	Daily Composite

Chromium (Total)	109	Daily-See Note 1	Daily Composite
Lead	114	Daily-See Note 1	Daily Composite
Nickel	119	Daily-See Note 1	Daily Composite
Zinc	127	Daily-See Note 1	Daily Composite
Oil and Grease	622	Daily-See Note 1	Grab
pH	609	Daily-See Note 1	Range during Composite
Total Suspended Solids	614	Daily-See Note 1	Daily Composite

1) Sampling required only when discharging steam generator chemical decontamination wastewater. Sampling required for parameters included in the process approved by the Director of Water Compliance as per paragraph 3 (CC) (2) of this permit.

2) Record the total flow (Code 626) at the time of composite sample collection.

3) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

EE) Discharge Serial No. 001C-6(b)

REQUEST REMOVAL

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Weekly-See Note 2	Daily Composite
Chemical Oxygen Demand	303	Weekly-See Note 2	Daily Composite

1) Record the total daily flow (Code 626).

2) Sampling required only when auxiliary boiler is in operation.

FF) Discharge Serial No. 001C-7

DELETE

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Free Available Chlorine	510	Weekly	Grab
Total Suspended Solids	614	Weekly	Grab
pH	609	Weekly	Grab

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

GG) Discharge Serial No. 001C-8

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Iron	113	Daily when discharge occurs	Grab
Total Suspended Solids	614	Daily when discharge occurs	Grab
pH	609	Daily when discharge occurs	Grab

HH) Discharge Serial No. 001C-9

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Biochemical Oxygen Demand	301	Daily-See Note 3	Grab
Chemical Oxygen Demand	303	Daily-See Note 3	Grab
Hydrazine	651	Daily-See Note 3	Grab

REQUEST REMOVAL

1) Record the instantaneous flow at the time of grab sample collection (Code 627).

2) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

3) Sampling required only when discharging closed cooling water system drainage.

II) Discharge Serial No. 005

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Oil and Grease	622	See Note 1	Grab

1) Monitor monthly for oil and grease when oil separator discharge occurs.

2) Record the instantaneous flow at the time of grab sample collection (Code 627).

3) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

JJ) Discharge Serial No. 006

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Boric Acid	106	See Note 4	Grab
Oil and Grease	622	See Note 1	Grab
Total Suspended Solids	614	See Note 5	Grab
pH	609	See Note 5	Grab

1) Monitor monthly for oil and grease when oil separator discharge occurs.

2) Record the instantaneous flow at the time of grab sample collection (Code 627)

3) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions to achieve compliance.

4) Monitor weekly for boric acid when boric acid treatment of steam generator occurs.

5) Sampling for Total Suspended Solids and pH shall only include dry weather flows.

KK) Discharge Serial No. 008

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Oil and Grease	622	See Note 1	Grab

1) Monitor monthly for oil and grease when oil separator discharge occurs.

2) Record the instantaneous flow at the time of grab sample collection (Code 627).

3) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

LL) Discharge Serial No. 009

Parameter	Code	Minimum Frequency Of Sampling	Sample Type
Oil and Grease	622	See Note 1	Grab

1) Monitor monthly for oil and grease when oil separator discharge occurs.

2) Record the instantaneous flow at the time of grab sample collection (Code 627).

3) The monitoring report shall include a detailed explanation of any deviations from the limits specified in paragraph 3 and the corrective actions taken to achieve compliance.

7) Not bypass the treatment facilities or any part thereof at any time. If any part of the waste treatment facilities becomes inoperable at any time, the Water Compliance Unit shall be notified immediately. A written report shall follow, giving the cause of the problem, duration and corrective measures taken.

8) Dispose of screenings, sludges and other solids or oils and other liquid chemicals at locations approved in accordance with the provisions of Chapter 446k of the Connecticut General Statutes or to waste haulers licensed under Chapter 446k of the Connecticut General Statutes.

9) Provide an alternate power source adequate to operate the treatment facilities and/or such other means as may be appropriate to insure that no discharge of untreated or partially treated wastewater will occur during a failure of the primary power source.

10) On or before June 30, 1985 verify to the Commissioner that compliance with paragraph 1 is being achieved and that the provision of paragraphs 2, 3, 4, 5, 6, 7, 8, and 9 will be complied with.

11) On or before June 30, 1985 and monthly thereafter, submit to the Commissioner all detailed monitoring data required under the provisions of paragraph 6.

12) On or before July 31, 1985 and annually thereafter, submit for the review and approval of the Commissioner a detailed proposal for continuing biological studies, entrainment studies, and impingement monitoring as required by paragraph 5.

13) On or before April 30, 1986 and annually thereafter submit for the review and approval of the Commissioner a detailed report of the ongoing biological studies required by paragraph 5 and as approved under paragraph 12.

14) The Commissioner will require pH monitoring of Discharge Serial No. 001, 001A, 001B, and 001C every four hours, when there are pH monitoring equipment malfunctions.

The above described specific terms may be revised following public notice and public hearing, if required, on the basis of a detailed engineering study if agreed by the Commissioner.

This permit shall be considered as the permit required by Section 402 of the Federal Clean Water Act and shall expire of June 5, 1990.

This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2), (C), and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:

1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

2) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

This permit shall be subject to all the NPDES General Conditions dated April 27, 1979 which are hereby incorporated into this permit.

Entered as Permit modification of the Commissioner on September 19, 1986.

Stanley J. Pac
Commissioner

State Application No. 86-165

NPDES NO. CT0003263