NPDES PERMIT

issued to

Naval Submarine Base New London
Route 12 and Crystal Lake Road
Bldg 439, Box 39
Groton, Connecticut 06349-5039

Location Address:
Route 12 & Crystal Lake Road
Groton, Connecticut

Facility ID: 059-036

Permit ID: CT0003921

Receiving Stream: **Thames River**

Permit Expires: September 26, 2011

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 section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., 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) Naval Submarine Base, New London ("Permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to section 22a-430 of the CGS and are hereby incorporated into this permit. Your 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
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(j) Monitoring, Records and Reporting Requirements
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(l) Conditions Applicable to POTWs
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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

(C) 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 penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

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

(E) 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.

(F) 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.

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

(H) An annual fee shall be paid for each year this permit is in effect as set forth in section 22a-430-7 of the Regulations of Connecticut State Agencies.

(I) 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.

"Annual" in the context of any sampling frequency found in Section 5, shall mean the sample must be collected in the month of December.

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

"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.

"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.

"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.

"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.

"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 90% or greater survival of test organisms at the CTC.

"Quarterly", in the context of a sampling frequency, means sampling is required in the months of

March, June, September and December.

"Range During Sampling", as a sample type, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of a Composite Sample or a Grab Sample Average. For those permittees with continuous monitoring and recording pH meters, 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", as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"Twice per Month" when used as a sample frequency shall mean two samples per calendar month collected no less than 12 days apart.

"ug/l" means micrograms per liter.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner, has issued a final determination and found that continuance of the existing discharges (DSN 001-004) will not cause pollution of the waters of the state. The Commissioner's decision is based on **Application No. 200000050** for permit reissuance received on January 6, 2000, the addendum received on March 14, 2000 and the administrative record established in the processing of that application.

(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 authorized agent 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.

(D) The Commissioner has determined that the thermal component of Discharge Serial No. 001-1 and 002-1 will not result in a violation of the Connecticut Water Quality Standards adopted pursuant to section 22a-426 of the Connecticut General Statutes as amended and approved by the U.S. Environmental Protection Agency on May 15, 1992. This determination is based on the report entitled "Impact of the NSB New London Thermal Discharge on the Thames River", dated March 1997, as approved by the Commissioner on May 15, 2001.

(E) The Commissioner has determined that Naval Submarine Base New London is in full compliance with paragraphs 3, 6, 7, and 8 of Permit No. CT0003921 issued on July 7, 1995.

SECTION 4: GENERAL EFFLUENT LIMITATIONS

(A) No discharge 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 beyond the vicinity of the base as demarcated by the piers and the north-south property lines of the base.

(B) No discharge 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) The temperature of any discharge shall not increase the temperature of the receiving stream above 85^{o}F or, in any case, raise the normal temperature of the receiving stream more than 4^{o}F beyond the zone of influence identified in the report entitled "Impact of the NSB New London Thermal Discharge on the Thames River", dated March 1997, as approved by the Commissioner on May 15, 2001. The discharges are located in an estuarine segment of the Thames River.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The 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:

Table A

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

Wastewater Description: Non-contact cooling water for the Turbine #3 condenser, the diesel generator heat exchanger, and the fresh water cooling well heat exchanger

Monitoring Location Description: Sample tap in Power Plant (Building 29)

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test[4]
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [3]	Sample Type or Measurement to be reported [5]	Instantaneous limit or required range	Sample/Reporting Frequency [3]	Sample Type or measurement to be reported	
Aquatic Toxicity [7] M. bahia NOAEL=100%	%	NA	≥90% Survival	Monthly	Composite	≥90% Survival	NR	Grab	
Aquatic Toxicity [7] M. beryllina NOAEL=100%	%	NA	≥90% Survival	Monthly	Composite	≥90% Survival	NR	Grab	
Copper, Total	mg/l	NA	0.015	Monthly	Composite	0.022	NR	Grab	X
Flow, Instantaneous – Average and Maximum [1]	gpm	-----	-----	Continuous// Monthly	See Remarks	NA	NR	NA	
Flow, Average and Maximum [2]	MGD	-----	22	Continuous// Monthly	See Remarks	NA	NR	NA	
Flow, Total (day of sampling)	MGD	NA	22	Monthly	Daily Flow	NA	NR	NA	
Hours of Discharge	hr/d	-----	-----	Daily/Monthly	Instantaneous	NA	NR	NA	
Lead, Total	mg/l	NA	0.010	Monthly	Composite	0.015	NR	Grab	X
Nickel, Total	mg/l	NA	0.010	Monthly	Composite	0.015	NR	Grab	X
Nitrogen, Ammonia (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Nitrogen, Nitrate (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Nitrogen, Nitrite (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Oil and Grease, Total	mg/l	NA	NA	NR	NA	10	Monthly	Grab	
pH, Continuous	S.U.	NA	NA	NR	NA	6.0 – 9.0	Continuous// Monthly	Range During Month	
pH, Day of Sampling	S.U.	NA	NA	NR	NA	6.0 – 9.0	Monthly	Range During Sample	
Temperature, Maximum (May 1 – October 31)	°F	NA	NA	NR	NA	90	Continuous// Monthly	Instantaneous	
Temperature, Maximum (November 1 – April 30)	°F	NA	NA	NR	NA	80	Continuous// Monthly	Instantaneous	
Temperature Difference between Intake 01H and discharge [6]	°F	NA	NA	NR	NA	25	Continuous// Monthly	Instantaneous	
Temperature Difference between Intake 01H and discharge during emergency diesel generator use[6]	°F	NA	NA	NR	NA	40	Continuous// Monthly	Instantaneous	
Tin, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Total Suspended Solids	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Zinc, Total	mg/l	NA	0.034	Monthly	Composite	0.051	NR	Grab	X

Table Footnotes and Remarks:

Footnotes:

[1] For this parameter the Permittee shall maintain at the facility a record of the average and maximum instantaneous flows (gpm) for each day of discharge and shall report the Average Instantaneous Flow and the Maximum Instantaneous Flow for each month.

[2] 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 Daily Flow and the Maximum Daily Flow for each month.

[3] 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'.

[4] Minimum Level Test refers to Section 6(A)(3) of this permit.

[5] "Composite" shall mean a composite sample consisting of grab samples of equal volumes collected at equal intervals of no more than sixty (60) minutes for as long as the discharge exists during an operating day.

[6] The maximum temperature increase at the discharge outlet above the intake water temperature shall be 25°F except during periods of emergency diesel generator operation when the temperature differential may be 40°F. In the event the temperature differential exceeds 25°F (or 40 °F during emergency diesel generator operation) for a period exceeding 24 hours, the Department of Environmental Protection Bureau of Materials Management and Compliance Assurance shall be notified immediately and a written report of the incident filed within 10 days.

During emergency generator use, the temperature differential shall be coded on the Discharge Monitoring Report as Monitoring Location '0'.

[7] The results of the Toxicity Tests shall be recorded in % on the Discharge Monitoring Report.

Remarks:

The Permittee shall record the following data and maintain the records on site:

a. Daily range of pH
b. Daily range of flow (gpd)
c. Daily maximum temperature (°F)
d. Daily average temperature (°F)
e. Daily maximum temperature increase
f. Daily average temperature increase

Table B

Discharge Serial Number: 002-1 | **Monitoring Location: 1**

Wastewater Description: Non-contact cooling water for the Turbine #5 condenser and heat exchanger, and the Low Pressure Air Compressor (LPAC) heat exchanger

Monitoring Location Description: Sample tap in Power Plant (Building 29)

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test[4]
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [3]	Sample Type or Measurement to be reported [5]	Instantaneous limit or required range	Sample/Reporting Frequency [3]	Sample Type or measurement to be reported	
Aquatic Toxicity [7] M. bahia NOAEL=100%	%	NA	≥ 90% survival	Monthly	Composite	≥ 90% survival	NR	Grab	
Aquatic Toxicity [7] M. beryllina NOAEL=100%	%	NA	≥ 90% survival	Monthly	Composite	≥ 90% survival	NR	Grab	
Copper, Total	mg/l	NA	0.015	Monthly	Composite	0.022	NR	Grab	X
Flow, Instantaneous – Average and Maximum [1]	gpm	-----	-----	Continuous// Monthly	See Remarks	NA	NR	NA	
Flow, Average and Maximum [2]	MGD	-----	18	Continuous// Monthly	See Remarks	NA	NR	NA	
Flow, Total (day of sampling)	MGD	NA	18	Monthly	Daily Flow	NA	NR	NA	
Hours of Discharge	hr	-----	-----	Daily//Monthly	Instantaneous	NA	NA	NR	
Lead, Total	mg/l	NA	0.010	Monthly	Composite	0.015	NR	Grab	X
Nickel, Total	mg/l	NA	0.010	Monthly	Composite	0.015	NR	Grab	X
Nitrogen, Ammonia (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Nitrogen, Nitrate (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Nitrogen, Nitrite (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Oil and Grease, Total	mg/l	NA	NA	NR	NA	10	Monthly	Grab	
pH, Continuous	S.U.	NA	NA	NR	NA	6.0 – 9.0	Continuous// Monthly	Range During Month	
pH, Day of Sampling	S.U.	NA	NA	NR	NA	6.0 – 9.0	Monthly	Range During Sample	
Temperature, Maximum (May 1 – October 31)	^{o}F	NA	NA	NR	NA	90	Continuous// Monthly	Instantaneous	
Temperature, Maximum (November 1 – April 30))	^{o}F	NA	NA	NR	NA	80	Continuous// Monthly	Instantaneous	
Temperature Difference between Intake 01H and discharge [6]	^{o}F	NA	NA	NR	NA	25	Continuous// Monthly	Instantaneous	
Tin, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Total Suspended Solids	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Zinc, Total	mg/l	NA	0.034	Monthly	Composite	0.051	NR	Grab	X

Table Footnotes and Remarks:

Footnotes:

[1] For this parameter the Permittee shall maintain at the facility a record of the average and maximum instantaneous flows (gpm) for each day of discharge and shall report the Average Instantaneous Flow and the Maximum Instantaneous Flow for each month.

[2] 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 Daily Flow and the Maximum Daily Flow for each month.

[3] 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'.

[4] Minimum Level Test refers to Section 6(A)(3) of this permit.

[5] "Composite" shall mean a composite sample consisting of grab samples of equal volumes collected at equal intervals of no more than sixty (60) minutes for as long as the discharge exists during an operating day.

[6] The maximum temperature increase at the discharge outlet above the intake water temperature shall be 25 ^{o}F. In the event the temperature differential exceeds 25^{o}F for a period exceeding 24 hours, the Department of Environmental Protection, Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement shall be notified immediately and a written report of the incident filed within 10 days.

[7] The results of the Toxicity Tests shall be recorded in % on the Discharge Monitoring Report.

Remarks:

The permittee shall record the following data and maintain the records on site:

a. Daily range of pH
b. Daily range of flow (gpd)
c. Daily maximum temperature (^{o}F)
d. Daily average temperature (^{o}F)
e. Daily maximum temperature increase
f. Daily average temperature increase

Table C	
Discharge Serial Number: 003-1 (formerly DSN 001A)	**Monitoring Location: Not applicable**
Wastewater Description: Shell crusher cup strainer backwash (Building 29)	
Monitoring Location Description: No monitoring required	
Maximum Daily Flow: 600,000 gpd	

Table D	
Discharge Serial Number: 004-1	**Monitoring Location: Not applicable**
Wastewater Description: Intake screen backwash (Fine mesh traveling screens; Building 490)	
Monitoring Location Description: No monitoring required	
Maximum Daily Flow: 45,000 gpd	

Remarks:

1. Solids, not including aquatic organisms, collected on the intake racks and screens shall not be reintroduced into the Thames River.

2. When the circulation pumps are operating, the Permittee must conduct on a daily basis a survey of aquatic organisms (living and dead) collected on the intake racks and screens. Such records shall include a general description of species, sizes, and approximate numbers of organisms impinged and shall be retained on site.

3. In the event of unusual incidents of large numbers of schooling fish being impinged over a short period of time, the Department of Environmental Protection, Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division shall be notified immediately and a written report of the incident shall be filed within 5 days. The report shall include the species, sizes, approximate numbers, time of occurrence, operating mode of the plant at the time and possible reasons for the occurrence.

Table E

Discharge Serial Number: Intake 01H | **Monitoring Location: 1**

Description: Intake for Power Plant (Building 29)

Monitoring Location Description: Screen house wet well (Building 490)

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test[2]
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [1 and 4]	Sample Type or Measurement to be reported [3]	Instantaneous limit or required range	Sample/Reporting Frequency [1]	Sample Type or measurement to be reported	
Aquatic Toxicity, M. bahia	%	NA	-----	Monthly	Composite	NA	NR	NA	
Aquatic Toxicity, M. beryllina	%	NA	-----	Monthly	Composite	NA	NR	NA	
Copper, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	X
Lead, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	X
Nickel, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	X
Nitrogen, Ammonia (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Nitrogen, Nitrate (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Nitrogen, Nitrite (total as N)	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Oil and Grease, Total	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
pH, Day of Sampling	S.U.	NA	NA	NR	NA	-----	Monthly	Range During Sample	
Temperature, Maximum [5]	^{o}F	NA	NA	NR	NA	-----	Continuous// Monthly	Instantaneous	
Tin, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Total Suspended Solids	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	
Zinc, Total	mg/l	NA	-----	Monthly	Composite	NA	NR	NA	X

Table Footnotes and Remarks:

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'.

[2] Minimum Level Test refers to Section 6(A)(3) of this permit.

[3] "Composite" shall mean a composite sample consisting of grab samples collected at equal intervals of no more than sixty (60) minutes for as long as the discharge exists during an operating day.

[4] The monthly monitoring specified above shall be conducted concurrently with the monitoring of DSN 001 and DSN 002.

[5] The equipment to continuously monitor the temperature of the intake water is located in Building 29.

(1) All samples shall be comprised of only the wastewater described in these tables. Samples shall be collected prior to combination with receiving waters or wastewater of any other type, and after all approved treatment units, if applicable. All samples collected shall be representative of the discharge during standard operating conditions.

(2) In cases where limits and sample type are specified but sampling is not required by 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.

(3) 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.

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.

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

(1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit shall be performed using the methods approved pursuant to the Code of Federal Regulations, Part 136 of Title 40 (40 CFR 136) unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in section 22a-430-3(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 shall be analyzed in accordance with methods specified in this permit.

(2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal as defined in 40 CFR 136 unless otherwise specified.

(3) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Section 5 Tables A, B and E. 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
Chlorine, total residual	20.0 ug/L
Copper	5.0 ug/L
Lead	5.0 ug/L
Nickel	5.0 ug/L
Zinc	20.0 ug/L

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

(5) 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 shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.

(6) 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.

(B) Acute Aquatic Toxicity Test

(1) Samples for monitoring of Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821/R-02-012).

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

(b) Effluent samples shall not be dechlorinated, filtered, or modified in any way prior to testing for Aquatic Toxicity unless specifically approved in writing by the Commissioner for monitoring at this facility.

(c) Chemical analyses of the parameters identified in Section 5 Tables A, B and E shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.

(i) At a minimum, pH, specific conductance, salinity, total alkalinity and total hardness 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. Total residual chlorine shall be measured in the effluent sample at test initiation. If total residual chlorine is not detected, then the measurement does not need to be repeated. 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. Salinity shall be measured in each test concentration at the beginning of the test and at test termination.

(ii) For tests with saltwater organisms which require salinity adjustment of the effluent, chemical analyses shall be conducted 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).

(d) Tests for Aquatic Toxicity shall be initiated within 36 hours of the end of sample collection.

(2) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (invertebrate) above shall be conducted for 48-hours utilizing neonatal Mysidopsis bahia (1-5 days old with no more than 24-hours range in age).

(3) Monitoring for Aquatic Toxicity to determine compliance with the permit limit on Aquatic Toxicity (vertebrate) above shall be conducted for 96-hours utilizing larval Menidia beryllinia (9-14 days old with no more than 24-hours range in age).

(4) Tests for Aquatic Toxicity shall be conducted as prescribed for static renewal acute tests 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) For Aquatic Toxicity Limits expressed as an NOAEL value, Pass/Fail (single-concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Aquatic Toxicity Limit, or 100% in the case of monitoring only conditions, as prescribed in section 22a-430-3(j)(7)(A)(i) of the Regulations of Connecticut State Agencies, except that five replicates of undiluted effluent and five replicates of effluent diluted to the CTC shall be included.

(b) M. beryllina shall not be fed during the tests, however, M. bahia must be fed during the tests.

(c) Aquatic toxicity tests with saltwater organisms shall be conducted at the same final salinity, plus or minus 2 parts per thousand, as the source water for the effluent. If the salinity of the effluent is greater than 5 parts per thousand, no salinity adjustment is necessary.

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

(ii) 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.

(iii) If the salinity of the source water is more than 5 parts per thousand higher or lower than the culture water used for rearing the organisms, a second set of controls matching the salinity of the culture water shall be added to the test series. Test validity shall be determined using the controls adjusted to match the source water salinity.

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

(a) For limits expressed as an NOAEL value, compliance shall be demonstrated when the results of a valid pass/fail Aquatic Toxicity test indicates there is greater than 50% survival in the undiluted effluent and 90% or greater survival in the effluent at the specified CTC.

SECTION 7: REPORTING REQUIREMENTS

(A) The results of chemical analyses and any aquatic toxicity test required above shall be entered on the Discharge Monitoring Report (DMR), provided by this office, and reported 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 the limitations specified. 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 Division (Attn: DMR Processing)
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(B) 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 all supporting chemical/physical measurements performed in association with any aquatic toxicity test shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Protection and Land Reuse at the following address. The ATMR shall be received at this address by the last day of the month following the month in which samples are collected.

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

(C) If this permit requires monitoring of a discharge on a calendar basis (e.g. Monthly, quarterly, etc.), 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". For those permittees whose required monitoring is discharge dependent (e.g. per batch), the minimum reporting frequency is monthly. Therefore, if there is no discharge during a calendar month for a batch discharge, a DMR must be submitted indicating such by the end of the following month.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS

(A) If any sample analysis indicates toxicity, or that the test was invalid, another sample of the effluent shall be collected and tested for Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division (Attn: DMR Processing), at the address listed above, within 30 days of the exceedance or invalid test. 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 Section) 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.

(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.

This permit is hereby issued on 9/27/06.

/s/AMEY MARRELLA
for Gina McCarthy
Commissioner

GM/kla

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: US Naval Submarine Base New London (SUBASENLON)
PAMS Company ID: 101799

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT No.: CT0003921 APPLICATION No.: 200000050 FACILITY ID. 059-036

Mailing Address:	Location Address:
Street: Bldg 439, PO Box 39	Street: Bldg 439, PO Box 39
City: Groton ST: CT Zip: 06349-5039	City: Groton ST: CT Zip: 06349-5039
Contact Name: Keith Chrisman	Contact Name: Keith Chrisman
Phone No.: 860-694-5164	Phone No.: 860-694-5164

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)
Note: If it's a CIU then check off SIU

POLLUTION PREVENTION MANDATE ENVIRONMENTAL EQUITY ISSUE

COMPLIANCE SCHEDULE YES NO X

POLLUTION PREVENTION TREATMENT REQUIREMENT WATER CONSERVATION

WATER QUALITY REQUIREMENT REMEDIATION OTHER

IS THE PERMITTEE SUBJECT TO PENDING ENFORCEMENT ACTION YES X NO
SEE PARAGRAPHS 5 AND 6 OF "OTHER COMMENTS"

OWNERSHIP CODE

Private __ Federal X State __ Municipal (town only) __ Other public

DEP STAFF ENGINEER Karen Leonard Allen

PERMIT FEES

Discharge Code	DSN Number	Annual Fee
102000c	001	$8175.00
102000c	002	$0
1060000	003	$525.00
1060000	004	$0

FOR NPDES DISCHARGES
Drainage basin Code: 3000 Present/Future Water Quality Standard: SC/SB

NATURE OF BUSINESS GENERATING DISCHARGE
SUBASENLON maintains a 20 MW electricity and steam generating power plant which utilizes water from the Thames River in a once through non-contact cooling water system. Both natural gas and #2 fuel oil are used as fuel sources. The facility also operates a floating drydock for submarine maintenance and repair. See paragraph #5 of "Other Comments".

RESOURCES USED TO DRAFT PERMIT

X Department File Information

X Connecticut Water Quality Standards

X Coastal Consistency Review Form

X Other – Correspondence from the applicant

PROCESS AND TREATMENT DESCRIPTION and BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

A dedicated cooling tower for the Low Pressure Air Compressor (LPAC) system became operative on 5/11/01. The LPAC system is intermittently serviced by the once-through cooling water system that discharges to DSN 002. Because the once-through non-contact cooling water system is now utilized intermittently, discharges DSN 001 and DSN 002 are no longer continuous.

The operation of the power plant is not subject to 40 CFR 423 Steam Electric Power Generating Point Source Category because the electricity generated is utilized on the base and is not generated for distribution and sale.

The addition of sodium hypochlorite to the non-contact cooling water was discontinued in September 1995, and the equipment that supplied and monitored the levels of chlorine was removed in November 1998. There is currently no chemical treatment of the non-contact cooling water or the backwash water. Therefore, the requirement to monitor DSN 001, DSN 002 and DSN 003 (formerly DSN 001A) for total residual oxidant has been removed from the permit.

DSN 001-1

This discharge is composed of once-through non-contact cooling water for the #3 steam turbine condenser, the diesel generator heat exchanger, and the heat exchanger for the recirculating fresh water cooling well. The source of the cooling water is the Thames River. No treatment is required prior to discharge.

Limits

The limits are based on a Case-by-Case Determination using Best Professional Judgement for aquatic toxicity, copper, lead, nickel, zinc, oil and grease, and temperature. The maximum daily limits for copper, lead, nickel and zinc are based on the 90th percentile of non-toxic samples as reported by the Permittee on Discharge Monitoring Reports (DMRs).

DSN 002

This discharge is composed of once-through non-contact cooling water for the #5 steam turbine condenser and heat exchanger, and the heat exchanger for the low pressure air compressor (LPAC). The source of the cooling water is the Thames River. No treatment is required prior to discharge.

Limits

The limits are based on a Case-by-Case Determination using Best Professional Judgement for aquatic toxicity, copper, lead, nickel, zinc, oil and grease, and temperature. The maximum daily limits for copper, lead, nickel and zinc are based on the 90th percentile of non-toxic samples as reported by the permittee on Discharge Monitoring Reports (DMRs).

DSN 003-1 (formerly DSN 001A)

This discharge is generated by backwashing the intake water shell crusher cup strainer. The shell crusher is backwashed using Thames River water for approximately 3 minutes in every 12 minute cycle. No treatment is required prior to discharge.

The previous permit required monitoring of the cup strainer backwash for total suspended solids. Review of DMRs indicates that total suspended solids is not a parameter of concern and has been removed from the monitoring requirements.

DSN 004-1

This discharge is generated by backwashing the two intake water fine mesh traveling screens. One screen is back-washed per shift; three shifts per day. Debris is washed from the screens into a collection trolley and then transferred into a dumpster for disposal as municipal solid waste. No treatment is required prior to discharge.

The Permittee is required to conduct a daily survey of any aquatic organisms impinged on the intake racks and traveling screens. Records of the surveys shall be maintained on site.

DSN 01H
Monitoring location of the intake water for the powerhouse.

OTHER COMMENTS
1. As referenced in Section 3(E) of this permit, the following special conditions were included in NPDES Permit No. CT0003921 (the permit) issued July 7, 1995:

a) Paragraph 3 required an investigation of the impact of the power plant macrofouling control practices on the Thames River during low tide conditions. The report entitled "Impact of the NSB New London Macrofouling Control Practices on the Thames River was received on 7/8/96 and approved on 9/5/96 fulfilling the requirements of Paragraph 3.

b) Paragraph 6(A)-6(C) required the Permittee to conduct a complete piping survey and examination of the non-contact cooling water systems and to submit a report within 30 days of permit issuance and annually thereafter. The final report, received 12/4/95, was approved 12/7/99. A review of the file shows that piping survey reports have been submitted annually in compliance with Paragraph 6(A) of the permit.

c) Paragraph 6(D) required a study of the chemical composition of the two non-contact cooling water discharges and chemical analyses of paired samples collected at DSN 001, DSN 002 and the Intake Monitoring Location 01H. The report entitled "Study of Chemical Composition of DSNs 001& 002, January 1996" was approved on 12/23/99 fulfilling the requirements of Paragraph 6(D) of the permit.

d) Paragraphs 7 and 8 required an investigation of the thermal plume created by the non-contact cooling water discharges and the submittal of a report detailing the results of the study for the Commissioner's review and approval. The report entitled "Impact of the NSB New London Thermal Discharge on the Thames River", received 4/4/97, was approved on May 5, 2001.

e) Paragraphs 9 and 10 required an investigation of winter flounder larvae entrainment in accordance with a scope of study that was to be provided by the Commissioner. The outline for a scope of study was never provided to the Permittee so the study was not performed. See paragraph 3 below for additional comments.

2. The power plant is not subject to the requirements of Section 316(b) of the Clean Water Act regarding cooling water intake structures. The facility's non-contact cooling water intake falls below the threshold of 50 MGD, as contained in the 316(b) Phase II rule effective 9/7/04, and as proposed in the 316(b) Phase III rule published 11/1/04.

3. A requirement for a winter flounder impingement/entrainment study has not been included in this permit. A review of DMRs submitted since the cooling tower went on-line in May 2001 shows that the power plant continues to use the once through system but the use of the system is intermittent, on no regular schedule, and frequently for only one or two days per month. Given the low usage of the once through non-contact cooling water system, the DEP Marine Fisheries Division is not requesting an impingement/entrainment study at this time.

4. The following discharges associated with submarine repair and maintenance have been permitted by, or included in the renewal application for, Permit No. SP0000915 for discharges to the sanitary sewer:

- waste oils and oil/water mixtures from submarine generator blowdown
- submarine diesel tank compensating water
- exterior hydroblast wastewater
- vessel bilge water
- oily wastewater from vessel bilge tanks including cleaning wastewater
- submarine reactor flush wastewaters

5. CT DEP is currently working with the Environmental Protection Agency (EPA) and the Department of the Navy

to determine which certain discharges associated with the Shippingport floating drydock are covered by the federal Clean Water Act's Uniform National Discharge Standards for Vessels of the Armed Forces (UNDS). Discharges determined to not be covered by UNDS will be appropriately regulated in accordance with section 22a-430 of the CGS.

6. In addition to this permit, the Commissioner will evaluate the need to utilize an enforcement action to require the Naval Submarine Base New London to do the following; (i) better characterize existing but currently unpermitted discharges from base operations that are not subject to UNDS; (ii) identify monitoring and treatment options and/or best management practices for such discharges as necessary to comply with Sections 22a-430-3 and 22a-430-4 of the Regulations of Connecticut State Agencies and the Connecticut Water Quality Standards; (iii) submit applications for all required wastewater discharge permits; and (iv) obtain all necessary wastewater discharge permits.