



NPDES PERMIT MODIFICATION

issued to

Location Address:

US Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Milford Laboratory
74 Magruder Road
Highlands, NJ 07732

212 Rogers Avenue
Milford, CT 06460

Permit ID: CT0090182

Permit Expires: July 29, 2015

Receiving Stream: Wepawaug River

SECTION 1: GENERAL PROVISIONS

- (A) This permit modification is issued 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) US Department of Commerce, NOAA Fisheries, Northeast Fisheries Science Center, Milford Laboratory, ("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 subsections (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of section 22a-430-3.

Section 22a-430-3 General Conditions

- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations (Upsets)
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4 Procedures and Criteria

- (a) Duty to Apply
- (b) Duty to Reapply

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

- (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, 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 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 Energy and 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 CGS).

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 sections 22a-430-3(a) and 22a-430-6 of the RCSA.
- (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.

"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.

"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 generated 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.

"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".

"Range During Month" or "RDM", as a sample type, means the lowest and the highest values of all of the monitoring data for the reporting month.

"Range During Sampling" or "RDS", as a sample type, means the maximum and minimum of all values recorded as a result of analyzing each grab sample of, 1) a Composite Sample, or 2) a Grab Sample Average. For those permittees with continuous monitoring and recording pH meters, Range During Sampling shall mean the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample collection.

"Semi-Annual" in the context of a sampling frequency, means the sample must be collected in the months of April and October.

"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 FINAL DETERMINATION

- (A) The Commissioner has made a final determination and found that the discharge will not cause pollution of the waters of the state. The Commissioner's final determination is based on Application No. 201302837 for permit modification received on May 29, 2013 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's authorized agent for the discharges and/or activities authorized by, or associated with, this permit as follows:
- (1) From the modification of this permit through and including September 30, 2014, the Commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of Permit No. CT0090182, issued by the Commissioner to the Permittee on July 20, 2010, the previous application submitted by the Permittee on October 23, 2009, and all modifications and approvals issued by the Commissioner or the Commissioner's authorized agent for the discharge and/or activities authorized by, or associated with, Permit No. CT0090182, issued by the Commissioner to the Permittee on July 20, 2010.
 - (2) From October 1, 2014 until this permit expires or is modified or revoked, the Commissioner hereby authorizes the Permittee to discharge in accordance with the terms and conditions of Permit No. CT0090182, issued by the Commissioner to the Permittee on September 12, 2014, Application No. 201302837 received by the Department on May 29, 2013, and all modifications and approvals issued by the Commissioner or the Commissioner's authorized agent for the discharge and/or activities authorized by, or associated with, Permit No. CT0090182, issued by the Commissioner to the Permittee on September 12, 2014.
- (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 that may be authorized under the Federal Clean Water Act or the Connecticut General Statutes 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 Connecticut General Statutes or regulations adopted thereunder which are then applicable.

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.
- (B) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge.
- (C) The temperature of any discharge shall not increase the temperature of the receiving stream above 83°F, or, in any case, raise the temperature of the receiving stream by more than 4°F. The incremental temperature increase in coastal and marine waters is limited to 1.5°F during the period including July, August and September.

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: Combined Aquaculture holding tank seawater and sand filter backwash wastewaters

Monitoring Location Description: Outfall Pipe

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ¹	Sample Type or Measurement to be reported ²	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Ammonia Nitrogen, Total	mg/l	NA	3.0	Semi-Annual	Daily Composite	4.5	NR	Grab	*
Copper, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Chlorine, Total Residual	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*
Dissolved Solids, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Lead, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*
Nickel, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Flow, Day of Sample ⁴	gpd	NA	324,000	Semi-Annual	Daily Flow	NA	NR	NA	
Flow, Maximum Daily ⁴	gpd	NA	324,000	Weekly/ Semi-Annual	Daily Flow	NA	NR	NA	
pH	S.U.	NA	NA	NR	NA	6.0 – 9.0	Semi-Annual	RDS	
Phosphorus, Total (as P)	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Oil Petroleum, Total Recoverable	mg/l	NA	5.0	Semi-Annual	Grab Sample Average	7.5	NR	Grab	
Surfactants, as MBAS	mg/l	NA	0.50	Semi-Annual	Grab Sample Average	0.75	NR	Grab	
Suspended Solids, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Temperature	°F	NA	NR	NA	NA	-----	Semi-Annual	Grab	
Zinc, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*

Table Footnotes and Remarks:

- Footnotes:**
- ¹ The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry 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 Daily Composite and 'Grab Sample Average' samples shall be collected over the low tide cycle when the outfall pipe is accessible. Composite and 'Grab Sample Average' samples shall consist of aliquot samples, of equal volume, collected once per hour for six (6) hours.
- ³ Minimum Level Test refers to Section 6 Paragraph (A)(3) of this permit.
- ⁴ For this parameter the Permittee shall maintain at the facility a record of the total daily flow once per week and shall report the Maximum Daily Flow for each sampling month.

Table B

Discharge Serial Number: 002-1					Monitoring Location: 1				
Wastewater Description: Combined Aquaculture holding tank seawater, algae research wastewater, sand filter backwash and seawater bypass wastewaters									
Monitoring Location Description: Outfall Pipe									
PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ¹	Sample Type or Measurement to be reported ²	Instantaneous limit or required range	Sample/Reporting Frequency	Sample Type or measurement to be reported	
Ammonia Nitrogen, Total	mg/l	NA	3.0	Semi-Annual	Daily Composite	4.5	NR	Grab	
Copper, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*
Chlorine, Total Residual	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*
Dissolved Solids, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Lead, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*
Nickel, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Flow, Day of Sample ⁴	gpd	NA	2,736,000	Semi-Annual	Daily Flow	NA	NR	NA	
Flow, Maximum Daily ⁴	gpd	NA	2,736,000	Weekly/ Semi-Annual	Daily Flow	NA	NR	NA	
pH	S.U.	NA	NA	NR	NA	6.0 - 9.0	Semi-Annual	RDS	
Phosphorus, Total (as P)	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Oil Petroleum, Total Recoverable	mg/l	NA	5.0	Semi-Annual	Grab Sample Average	7.5	NR	Grab	
Surfactants, as MBAS	mg/l	NA	0.50	Semi-Annual	Grab Sample Average	0.75	NR	Grab	
Suspended Solids, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	
Temperature	°F	NA	NR	NA	NA	-----	Semi-Annual	Grab	
Zinc, Total	mg/l	NA	-----	Semi-Annual	Daily Composite	NA	NR	Grab	*

Table Footnotes and Remarks:

- Footnotes:**
- ¹ The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry 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 Daily Composite and 'Grab Sample Average' samples shall be collected over the low tide cycle when the outfall pipe is accessible. Composite and 'Grab Sample Average' samples shall consist of aliquot samples, of equal volume, collected once per hour for six (6) hours.
- ³ Minimum Level Test refers to Section 6 Paragraph (A)(3) of this permit.
- ⁴ For this parameter the Permittee shall maintain at the facility a record of the total daily flow once per week and shall report the Maximum Daily Flow for each sampling month.

Table C

Discharge Serial Number: 001-1					Monitoring Location: 7				
Wastewater Description: Wepawaug River Water (raw water intake)									
Monitoring Location Description: Intake pipe sample port									
PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			Minimum Level Test ³
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency ¹	Sample Type or Measurement to be reported ²	Instantaneous limit or required range	Sample/ Reporting Frequency	Sample Type or measurement to be reported	
Suspended Solids, Total	mg/l	NA	----	Semi-Annual	Daily Composite	NA	NR	Grab	

Table Footnotes and Remarks:

Footnotes:
¹ The first entry in this column is the 'Sample Frequency'. If a 'Reporting Frequency' does not follow this entry 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 Daily Composite and 'Grab Sample Average' samples shall be collected over the low tide cycle when the outfall pipe is accessible. Composite and 'Grab Sample Average' samples shall consist of aliquot samples, of equal volume, collected once per hour for six (6) hours.
³ Minimum Level Test refers to Section 6 Paragraph (A)(3) of this permit.

- (B) All samples shall be comprised of only those wastewaters described in this schedule. Therefore, samples shall be taken prior to combination with wastewaters of any other type and after all approved treatment units, if applicable. All samples taken shall be representative of the discharge during standard operating conditions.
- (C) In cases where limits and sample type are specified but sampling is not required, the limits specified shall apply to all samples which may be collected and analyzed by the Department of Energy and Environmental Protection personnel, the Permittee, or other parties.

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 by the Environmental Protection Agency pursuant to 40 CFR 136 unless an alternative method has been approved in writing in accordance with 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 and B. 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.

<u>Parameter</u>	<u>Minimum Level</u>
Chlorine, total residual	20.0 ug/L
Copper	5.0 ug/L
Lead	5.0 ug/L
Zinc	10.0 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.

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. Except for continuous monitoring, any monitoring required more frequently than monthly shall be reported on an attachment to the DMR, and any additional monitoring conducted in accordance with 40 CFR 136 or other methods approved by the Commissioner shall also be included on the DMR, or as an attachment, if necessary. 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.

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

(B) 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, 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.

(C) NetDMR Reporting Requirements

(1) Prior to one-hundred and eighty (180) days after the issuance of this permit, the Permittee may either submit monitoring data and other reports to the Department in hard copy form or electronically using NetDMR, a web-based tool that allows Permittees to electronically submit discharge monitoring reports (DMRs) and other required reports through a secure internet connection. Unless otherwise approved in writing by the Commissioner, no later than one-hundred and eighty (180) days after the issuance of this permit the Permittee shall begin reporting electronically using NetDMR. Specific requirements regarding subscription to NetDMR and submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

(a) Submittal of *NetDMR Subscriber Agreement*

On or before fifteen (15) days after the issuance of this permit, the Permittee and/or the person authorized to sign the Permittee's discharge monitoring reports ("Signatory Authority") as described in RCSA Section 22a-430-3(b)(2) shall contact the Department at deep.netdmr@ct.gov and initiate the NetDMR subscription process for electronic submission of Discharge Monitoring Report (DMR) information. Information on NetDMR is available on the Department's website at www.ct.gov/deep/netdmr. On or before ninety (90) days after issuance of this permit the Permittee shall submit a signed and notarized copy of the *Connecticut DEEP NetDMR Subscriber Agreement* to the Department.

(b) Submittal of Reports Using NetDMR

Unless otherwise approved by the Commissioner, on or before one-hundred and eighty (180) days after issuance of this permit, the Permittee and/or the Signatory Authority shall electronically submit DMRs and reports required under this permit to the Department using NetDMR in satisfaction of the DMR submission requirement in paragraph (A) of this Section of this permit.

DMRs shall be submitted electronically to the Department no later than the thirtieth (30th) day of the month following the completed reporting period. All reports required under the permit, including any monitoring conducted more frequently than monthly or any additional monitoring conducted in accordance with 40 CFR 136, shall be submitted to the Department as an electronic attachment to the DMR in NetDMR. Once a Permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to the Department. Permittee shall also electronically file any written report of non-compliance described in paragraph (A) of this Section and in the following Section of this Permit as an attachment in NetDMR. NetDMR is accessed from: <http://www.epa.gov/netdmr>.

(c) Submittal of NetDMR Opt-Out Requests

If the Permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for electronically submitting DMRs and reports, the Commissioner may approve the submission of DMRs and other required reports in hard copy form ("opt-out request"). Opt-out requests must be submitted in writing to the Department for written approval on or before fifteen (15) days prior to the date a Permittee would be required under this permit to begin filing DMRs and other reports using NetDMR. This demonstration shall be valid for twelve (12) months from the date of the Department's approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to the Department using NetDMR unless the Permittee submits a renewed opt-out request and such request is approved by the Department.

All opt-out requests and requests for the NetDMR subscriber form should be sent to the following address or by email at deep.netdmr@ct.gov:

Attn: NetDMR Coordinator
Connecticut Department of Energy and Environmental Protection

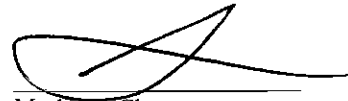
79 Elm Street
Hartford, CT 06106-5127

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

- (A) The Permittee shall notify the Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division, within seventy-two (72) hours and in writing within thirty (30) 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 modification is hereby issued on

9/12/2014



Macky McCleary
Deputy Commissioner
Department of Energy and Environmental Protection

MM/EMW

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: US Department of Commerce, NOAA, National Marine Fisheries Service,
Northeast Fisheries Science Center, Milford Laboratory

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT No. CT0090182 APPLICATION #: 201302837 FACILITY ID. 084-097

<u>Mailing Address:</u>				<u>Location Address:</u>							
Street:	74 Magruder Road			Street:	212 Rogers Avenue						
City:	Highlands	ST:	NJ	Zip:	07732	City:	Milford	ST:	CT	Zip:	06460
Contact Name:	Linda Arlen			DMR Contact	Linda Arlen						
Phone No.:	(732) 872-3093			Phone No.:	(732) 872-3093						

PERMIT INFORMATION

DURATION 5 YEAR X 10 YEAR ___ 30 YEAR _____

TYPE New ___ Reissuance ___ Modification X

CATEGORIZATION POINT (X) NON-POINT () GIS # ___

NPDES (X) PRETREAT () GROUND WATER(UIC) () GROUND WATER (OTHER) ()

NPDES MAJOR (MA) _____

NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI) _____

NPDES or PRETREATMENT MINOR (MI) X _____

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 ISSUES

COMPLIANCE SCHEDULE YES NO X

POLLUTION PREVENTION ___ TREATMENT REQUIREMENT ___ WATER CONSERVATION

WATER QUALITY REQUIREMENT ___ REMEDIATION ___ OTHER _____

IS THE PERMITTEE SUBJECT TO A PENDING ENFORCEMENT ACTION? NO X YES ___

OWNERSHIP CODE

Private Federal State Municipal (town only) Other public

DEP STAFF ENGINEER Ewa Wozniak

PERMIT FEES

<i>Discharge Code</i>	<i>DSN</i>	<i>Annual Fee</i>
102000b	001, 002	\$2,290.00

FOR NPDES DISCHARGES

Drainage basin Code: 5306

Present/Future Water Quality Standard: SC/SB

NATURE OF BUSINESS GENERATING DISCHARGE

Northeast Fisheries Science Center, Milford Laboratory, is an aquaculture research facility.

PROCESS AND TREATMENT DESCRIPTION (by DSN)

DSN 001-1: This discharge is made up of a maximum flow of 324,000 gallons per day of seawater from aquariums. The seawater is either re-circulated or passes once through the aquariums before it is discharged. In some cases water may be filtered using sand filters prior to being returned to the river.

DSN 002-1: This discharge is made up of a maximum flow of 2,736,000 gallons per day of seawater from aquariums, algae research and seawater bypass wastewater. In some cases water may be filtered using sand filters prior to being returned to the river.

RESOURCES USED TO DRAFT PERMIT

- Federal Effluent Limitation Guideline _____
name of category
- Performance Standards
- Federal Development Document _____
name of category
- Treatability Manual
- Department File Information
- Connecticut Water Quality Standards
- Anti-degradation Policy
- Coastal Management Consistency Review Form

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

- X Case-by-Case Determination using Best Professional Judgment (See Comments)
- X In order to meet in-stream water quality (See General Comments)

GENERAL COMMENTS

The need for inclusion of water quality based discharge limitations in this permit was evaluated consistent with Connecticut Water Quality Standards and criteria, pursuant to 40 CFR 122.44(d). Each parameter was evaluated for consistency with the available aquatic life criteria (acute and chronic) and human health (fish consumption only) criteria, considering the zone of influence allocated to the facility where appropriate. The statistical procedures outlined in the EPA Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) were employed to calculate the need for such limits. Comparison of monitoring data and its inherent variability with the calculated water quality based limits indicates a low statistical probability of exceeding such limits. Therefore, no water quality based limits were included in the permit at this time.

COMMENTS RELATED TO THE PERMIT ISSUED ON July 30, 2010

Oil petroleum (total recoverable) replaces the total oil and grease parameter from the previous permit.

Limitations for total ammonia nitrogen, oil petroleum (total recoverable) and surfactants (as MBAS) remain unchanged from the previous permit. Monitoring data provided by the Permittee show that the Permittee has been able to consistently meet the permit limits. In addition, the Permittee is required to maintain at the facility a record of the total daily flow once per week (for both discharge locations) and shall report the Total Daily Flow for each sampling month.

Total Suspended Solids' maximum daily and instantaneous limits were increased from 20.0 mg/L and 30.0 mg/L to 50.0 mg/L and 60.0 mg/L, respectively. The Permittee collected data for two years during which it was shown that the incoming water's TSS limits exceeded the permit's limits. Since the company uses the incoming water in its aquarium research tanks without adding any chemicals the Department increased the TSS limits to account for the fact that the incoming water has high levels of TSS. This change is consistent with Section 22a-430-4(l) of the Regulations of Connecticut State Agencies.

Northeast Fisheries Science Center, Milford Laboratory, is a research facility that emphasizes aquaculture and habitat related work. The Laboratory's aquaculture program includes studies of fish/shellfish culture to develop methods for commercial adaptation. Because the Laboratory is not adding any chemicals to the seawater and because the facility is designed to provide water quality sufficient for the successful establishment and maintenance of healthy aquatic populations within the laboratory, both treatment and toxicity testing are not necessary.

Since the date of the last permit application (September 2000), the Permittee conducted several construction projects. The Permittee eliminated all floor drains in Building 1 ensuring that no floor wash wastewater, cleaning products and residue enter the Wepawaug River through DSN 001-1. In addition, the Permittee installed a sediment separator, holding tank system and valve system to eliminate the discharge of laboratory sink and floor drains, and other incidental cleaning and maintenance wastewaters to the Wepawaug River. This wastewater is discharged to the sanitary sewer and is exempt from general permit registration for the General Permit for Miscellaneous Discharges of Sewer Compatible Wastewater because the quantity of wastewater allows for automatic coverage. In addition, any boiler blowdown generated at the facility will be directed to the sanitary sewer and automatically covered under the General Permit for Miscellaneous Discharge of Minor Boiler Blowdown because the quantity of wastewater allows for automatic coverage.

The Permittee has a Scallop hatchery that is currently not operational and does not generate wastewater. Although this building has not been operational since 2003, the Permittee has plans that are being explored to use this facility

in the future. The Permittee also has a Greenhouse that has not been operational since 2003. At this time a research experiment is being explored. This research experiment would not contribute wastewater to DSN 002-1 because it is self contained. However, future experiments generating wastewater from both the Scallop hatchery and the Greenhouse will contribute to DSN 002-1. At the time of this permit reissuance, the Permittee did not specify which future experiments will be performed and the types of wastewaters these experiments will generate. Therefore, the Permittee is not allowed to discharge any wastewater from the Scallop hatchery or the Greenhouse at this time. In the future, the Permittee would have to get a permit modification from the Department to discharge any wastewaters generated from the Scallop hatchery or the Greenhouse.

Section 316 (b) of the Clean Water Act was reviewed to determine whether it is applicable to the facility's intake structure. However, since the facility does not use the water it withdraws from the Wepawaug River for cooling purposes, Section 316 (b) is not applicable. The intake structure, made from PVC pipes which have horizontal slits cut out, is located approximately 25 feet from shore and is suspended approximately 2 feet from the bottom sediment and approximately 10 feet under the high water surface. There are six inlet PVC pipes, each with its own pump, however usually 2-4 pumps will operate. The Department staff is not requiring the Permittee to study impingement and entrainment issues at this time based on recommendations from the DEEP-Fisheries Section. Adverse environmental impacts from impingement mortality and entrainment are not deemed by the DEEP at this time to be a significant concern.

Anti-degradation does not apply to this permit reissuance because there has been no change in the discharge volumes or constituent concentrations.

This permit modification deals with the administrative change of the parameter name from Phosphorous, Total to Phosphorus, Total (as P) and units for Temperature from mg/l to °F for both Tables A and B in Section 4 of the permit. The processing time and effort for this application is equal to that of a Non Contact Cooling Water application. Therefore, the permit fee discharge code is changed from Fish Hatchery & Farms (101024Z) to Non Contact Cooling (102000b).

COMMENTS RELATED TO THE 2014 PERMIT MODIFICATION

On May 29, 2013, US Department of Commerce, NOAA Fisheries, Northeast Fisheries Science Center, Milford Laboratory (NOAA) submitted to the Department an application to modify its existing NPDES Permit No. CT0090182. Specifically, NOAA requested to have its maximum daily flows, associated with DSN 001-1 and DSN 002-1, be increased from 120,000 gpd to 324,000 gpd and from 1,500,000 gpd to 2,736,000 gpd, respectively. The request for flow increases is due to the fact that NOAA's recent flow data indicates that the flow rates calculated in 2002 were incorrect.

In addition, NOAA requested the following modifications:

DSN 001-1:

- *Eliminate the maximum daily limit for total suspended solids*
- *Replace and upgrade a finfish re-circulating system by installing a drum filter and a protein skimmer*

DSN 002-1:

- *Eliminate the maximum daily limit for total suspended solids*
- *Utilize the Greenhouse (Building 12) to conduct algae research activities*

The Department evaluated NOAA's request to increase its maximum daily flows for both DSN 001-1 and DSN 002-1 and determined that the potential of increased entrainment is unlikely to have significant biological impacts, and impingement is not expected to be of concern due to the cylindrical shape and relatively small total surface area of the intake pipes. The Department based its decision after consultation with staff from DEEP-Fisheries Section (Attachment 1: e-mail dated May 22, 2013).

The Department also evaluated NOAA's influent total suspended solids data and determined that removing the maximum daily and instantaneous limits will be protective of the waters of the state since the total suspended solids influent concentrations exceed the permit limits. In addition, pursuant to 22a-430-4(l)(4)(xxiii), anti-backsliding is not an issue because the circumstances on which the previous permit was based have changed. However, the Department is requiring that NOAA continue to monitor the influent water for total suspended solids on a semi-annual basis (in the months of April and October).

Pursuant to the federal regulations (40 CFR 131.12) and Connecticut Water Quality Standards (CTWQS), the Department also evaluated the need to implement the Antidegradation Policy. Although this is not a new permit, due to an increase in the effluent flow, a Tier 1 analysis was conducted to ensure that existing and designated uses of surface waters and the water quality necessary for their protection are maintained and preserved, consistent with CTWQS. The Department has determined that the discharge or activity is consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data.

The Department also evaluated NOAA's request to utilize the Greenhouse for algae research purposes. More specifically, NOAA requested to use the Greenhouse to grow algae using the Algal Mass Production System (GRAMPS). A total of 4,050 liters of sea water is diverted from the Covered Tank Pad (Building 4) to the Greenhouse to be utilized in the algae research. The seawater passes through a sand filter before filling the GRAMPS culture vessels. The sand filter is equipped with a fresh water backwash that uses less than 150 gallons of fresh water per backwash 6 times/year. NOAA will utilize settling tanks, filter de-watering or centrifuging and evaporation to remove the grown algal biomass from seawater contained in the GRAMPS culture vessels. The algae biomass will be taken off-site by a third party. Wastewater from the GRAMPS culture vessels will be discharged through the DSN 002-1 outfall.

Due to the fact that NOAA will be adding nutrients to help the algae grow, the Department evaluated the possible concentrations of nutrients (more specifically total phosphorus and ammonia nitrogen) in the discharge. Since NOAA discharges to the Wepawaug River, which flows to the Long Island Sound, the Department also reviewed the Long Island Sound Nitrogen TMDL to determine whether the additional algae wastewater discharge will have an adverse effect on the concentration of nutrients in the Long Island Sound. Based on the concentration projections of total phosphorus, nitrates, nitrites and ammonia nitrogen, supplied by NOAA, the concentration of these nutrients in the algae wastewater will not have an adverse effect on the Long Island Sound.

Notice of Tentative Decision was published in the New Haven Register on July 31, 2014. The comment period ended on August 30, 2014. The Department has received no written comments on the proposed action. Section 1(A) of the final permit was edited to correct an administrative error made in citations and program reference.

Attachment 1

Wozniak, Ewa

From: Johnson, Mark
Sent: Wednesday, May 22, 2013 10:40 AM
To: Wozniak, Ewa
Subject: RE: Northeast Fisheries Science Center - Milford Harbor

Ewa-

Doubling the water withdrawal does seem to be a significant increase in quantity, but perhaps not in the biological sense. Theoretically, the potential to entrain eggs and larvae would double, but 3 mgd is still a relatively low water withdrawal in an estuarine environment and unlikely to have significant biological impacts.

After we discussed this on the phone, it is also my understanding that it is likely NMFS will continue to operate near the current water withdrawal levels. NMFS has requested limit increases for the two discharges because better monitoring of flow has shown that DSN 001-1 has frequently been near 200,000 gpd rather than the permitted 120,000 gpd and occasionally DSN 002-1 exceeded the limit of 1.5 mgd. Therefore NMFS would like to modify the limits to allow these withdrawals, and are requesting limits that reflect full operation capability rather than current need.

If the lab did increase flow to the requested permitted levels, it is not clear to me whether it would result in higher through-slot velocities, which could then result in more impingement. However, I still would not expect impingement to be of concern due to the cylindrical shape and relatively small total surface area of the intake pipes.

If you would like to discuss this further, please do not hesitate to contact me.

Thanks,

Mark Johnson
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Habitat Conservation and Enhancement Program
Bureau of Natural Resources, Inland Fisheries Division
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www.ct.gov/deep

*Conserving, improving and protecting our natural resources and environment;
Ensuring a clean, affordable, reliable, and sustainable energy supply.*

From: Wozniak, Ewa
Sent: Monday, May 20, 2013 1:28 PM