STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ADJUDICATIONS

IN THE MATTER OF : *APPLICATION NO. 199701876*

MILLSTONE POWER STATION : *FEBRUARY 17, 2010*

PROPOSED FINAL DECISION

I
SUMMARY

Dominion Nuclear Connecticut, Inc. (applicant/DNC), owner/operator of the Millstone Power Station (MPS), has applied to the Department of Environmental Protection (DEP) to renew its National Pollutant Discharge Elimination System (NPDES) permit for the withdrawal and discharge of waters from Niantic Bay into Long Island Sound associated with the operation of MPS in Waterford. In addition to DNC and the DEP, the other parties in this proceeding are Nancy Burton and the Connecticut Coalition Against Millstone (Burton/CCAM), the Connecticut Fund for the Environment, Inc. (CFE), and Soundkeeper, Inc. (Soundkeeper).

The DEP published an initial notice of its tentative determination to approve this application and issued a draft permit on August 26, 2006; a second notice and draft permit were released on December 13, 2007. On September 29, 2008, DNC, DEP, CFE and Soundkeeper filed an executed Stipulation that supported the issuance of a September 26, 2008 Revised Draft Permit (RDP). (See Attachments A and B.) The hearing proceeded on this RDP.

An evening hearing for public comment was held on December 4, 2008 at the DEP Marine Division Headquarters in Old Lyme. An evidentiary hearing was conducted at the DEP in Hartford over eighteen days between January 6 and February 26, 2009.

The parties filed post-hearing memoranda and briefs on May 8, 2009. As directed, the parties addressed the question of whether Burton/CCAM had met its burden of proof regarding its claim that the conduct authorized by the RDP would be reasonably likely to have the effect of "unreasonably polluting, impairing, or destroying the public trust in the air, water or other natural resources of the state." General Statutes (CGS) §22a-19(a). If a prima facie case of "unreasonable pollution" was established, §22a-19(b) requires the consideration of any "feasible and prudent" alternatives consistent with public health, safety and welfare.[1] Burton/CCAM did not meet its burden; therefore, no further proceedings were required.[2] (See Attachment C.)

I have reviewed the extensive record compiled in this administrative proceeding, including all evidence received and considered, questions and offers of proof and related objections and rulings, the transcript of the hearing, and the parties' post-hearing legal memoranda. CGS §4-177(d). I have also evaluated the RDP with reference to the Stipulation. The record fully supports the terms and conditions of the RDP.

Applying the substantial evidence in this matter to relevant federal and state law and regulations, I find that the RDP complies with CGS §22a-430 and Regs., Conn. State Agencies (RCSA) §§22a-430-3 and 22a-430-4. The RDP is also consistent with §§316(a) and 316(b) of the federal Clean Water Act, 33 USC §§1326(a) and 1326(b), and will fulfill the goals of the Connecticut Coastal Management Act, CGS §§22a-90 through 22a-112. I therefore recommend that the Commissioner renew the NPDES permit held by DNC pursuant to the proposed terms and conditions of the RDP.

[1] CGS §§22a-14 through 22a-20 comprise the Connecticut Environmental Protection Act (CEPA).
[2] *Ruling: Prima Facie Case of Unreasonable Pollution/Alternatives Analysis*, July 2, 2009, Deshais, J.

II
DECISION
A
FINDINGS OF FACT

1
Procedural History
a
The Parties

1. DNC is a corporation with its principal place of business at Rope Ferry Road (Route 156) in Waterford. DNC owns and operates the Millstone Power Station (MPS**).** (Ex. APP-131; test. R. MacManus, 1/6/09, p. 48.)

2. The parent company of DNC is Dominion Resources, Inc. of Richmond, Virginia. The environmental policy and business operations of Dominion Resources are designed to ensure that all its companies, including DNC, comply with all environmental laws and regulations. (Ex. APP-78; test. C. Taylor, 1/7/09, pp. 294, 296-298, 300-304.)

3. In consultation with other relevant agency divisions and programs, staff of the DEP Water Permitting and Enforcement Division, Bureau of Materials Management and Compliance Assurance, conducted a technical review of the application and tentatively decided to issue the RDP. (Ex. DEP-45; test. C. Nezianya, 2/6/09, pp. 2283-2286.)

4. On March 19, 1999, the Long Island Soundkeeper Fund, Inc. (now Soundkeeper) filed a petition to intervene as a party pursuant to CGS §22a-19(a) and RCSA §22a-3a-6(k). Party status was granted under §22a-3a-6(k) on April 30, 1999 and under §22a-19(a) on May 27, 1999 after a revised petition was filed. When this proceeding began, Soundkeeper confirmed its intent to remain a party. (Docket file (Dkt file) – 14, 17.) [3]

[3] Documents in the non-evidentiary record are in the Docket File, which is part of the administrative record of this proceeding.

5. Burton/CCAM petitioned to intervene as a party on November 9, 2006, asserting that the renewal of the NPDES permit would authorize "conduct which has, or which is reasonably likely to have, the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the state." CGS §22a-19(a). Party status was granted to Ms. Burton individually and as the representative for CCAM on December 20, 2006; however, this status was limited to claims that were relevant environmental issues within DEP jurisdiction.[4] (Dkt file – 18, 27, 29, 35, 41.)

6. In May 2007, CFE filed a notice of intervention pursuant to CGS §22a-19(a) and RCSA §22a-3a-6(k). Status as an intervening party was granted on June 21, 2007. (Dkt file – 73, 83, 86.)

7. On November 24, 2008, Nancy Burton petitioned to be designated a party pursuant to CGS §4-177a.[5] Her petition alleged that as an owner of real property in Mystic, she was possessed of unique legal rights and interests or duties or privileges that would be substantially affected by this decision. However, the harm alleged in the petition did not establish that Ms. Burton had interests that would be specifically affected by the decision in this matter as required by §4-177a; the motion was denied.[6] (Dkt file – 191, 195, 196, 197.)

[4] The petition included claims regarding radioactive emissions, allegations of collusion and corruption on the part of DNC, Northeast Utilities, and the DEP, and other issues that were either not environmental in nature or that were otherwise irrelevant to the current application. Intervening parties play a derivative role in a proceeding and may not introduce new claims to restyle an action; they are limited to raising environmental claims within the jurisdiction of an agency. *Nizzardo v. State Traffic Commission*, 259 Conn. 131, 148, 154 (2002).

[5] Attached to this motion was a letter-size "poster" that allegedly listed "many of the toxic chemicals and radionuclides known to be discharged by Millstone." (Dkt file - 191.)

[6] *Ruling on Burton Petition*, December 4, 2008, Deshais, J. (Dkt file – 197.)

b
The Application

8. The Northeast Nuclear Energy Company (NU) applied to renew its 1992 NPDES permit on June 13, 1997. This permit will remain in effect until a new permit is issued.[7] MPS is therefore authorized to continue to discharge wastewaters pursuant to the provisions of its current NPDES permit. (Exs. APP-7, 8, DEP-38, 43; test. J. Kulowiec, 1/30/09, p. 2049.)

9. On March 31, 2001, the NPDES permit and the NU application, as well as other permits, authorizations, and registrations, were transferred from NU to DNC in connection with the sale of MPS to DNC.[8] (Exs. APP-63, DEP-38; test. R. MacManus, 1/6/09, p. 89, C. Taylor, 1/7/09, p. 281.)

10. In addition to the documentation filed with the DEP on June 13, 1997, NU submitted application supplemental filings in support of its permit renewal and also filed reports and studies to further assist the DEP with its review of the application. After it became the owner of MPS in 2001, DNC submitted similar reports and other information, including responses to DEP requests for assistance with its ongoing review and analysis and updates to ensure that the application reflected the most current information regarding operations at MPS. (Exs. APP-1, 5-9, 12-16, 19, 20, 22, 23, 32, 33, 37-39, 41, 43, 46, 50, 56-59, 63-68, 71, 75, 78, 83-85, 87, 88, 91-93, 96-98, 100–102, 104, 106, 108,

[7] NU was issued an NPDES permit on December 14, 1992, which had an expiration date of December 14, 1997. Under CGS §4-182(b), upon the filing of a timely and sufficient renewal application, an existing permit remains in effect until a new permit is issued. The DEP also issued an emergency authorization on November 13, 2000. The discharges covered by this authorization have been incorporated into the RDP; the authorization will expire upon issuance of a new permit. (Ex. DEP-38.) *Connecticut Coalition Against Millstone v. Rocque*, 267 Conn. 116 (2003) (CCAM lacked standing to raise permitting claim in court as DEP has exclusive jurisdiction; also, permitting claim did not involve conduct directly causing pollution.)

[8] CGS §22a-6o provides for the administrative transfer of permits. *Connecticut Coalition Against Millstone v. Rocque*, 2001 Conn. Super. LEXIS 833 (Conn. Super. Ct. Mar. 29, 2001) (Transfer of permit appropriate; statute governing transfers of licenses does not provide for any right of intervention or any public hearing; matter is within exclusive domain of DEP).

109, 111-116, 119, 122, 128, 129, 131, 132, 167, DEP-10, 12; test. R. MacManus, 1/6/09, pp. 43-122, C. Taylor, 1/6/09, pp. 255-264, 1/7/09, pp. 278-307, S. Matthess, 1/8/09, pp. 558-572, P. Grossman, 1/9/09, pp. 723-724, 730, 737-738, D. Danila, 1/9/09, pp. 881-897, 1/13/09, pp. 924, 925, 951-958, C. Coutant, 1/22/09, pp. 1678, 1687-1692, J. Kulowiec, 1/23/09, pp. 1919-2016, 1/30/09, pp. 2029-2063, W. Micheletti, 2/5/09, pp. 2240-2245, 2250-2251, C. Nezianya, 2/6/09, p. 2297.)

11. DNC filed information summarizing its compliance history since taking ownership of MPS in 2001 with respect to ongoing operations under the current NPDES permit. DNC has not been convicted of or penalized for any violation of a local, state or federal environmental law and has not had a judgment entered against it for violating any such law. There are no outstanding orders against DNC by any state or federal administrative agency. (Exs. APP -78/Attachment C, 109, 114; test. C. Taylor, 1/7/09, pp. 281-282, 305-307.)

12. The DEP retained an independent consultant, ESSA Technologies Limited of Ontario, Canada, to assist with its review of certain technical matters relating to the application, including feasibility studies to evaluate technologies that might be used at MPS. Under its contract with the DEP, ESSA had no direct contact with DNC, providing reports to DEP staff with comments and recommendations. (Exs. APP-70, 73, 74, 79, DEP-18, 20, 45; test. P. Grossman, 1/9/09, pp. 724-727, 738, C. Nezianya, 2/6/09, pp. 2285-2289.)

13. After determining that the application was complete and sufficient for technical review, the DEP evaluated all application materials and supplemental information. This process included consultation with ESSA and coordination with and reviews by other

divisions and programs of the DEP [9] on issues that included thermal discharge, impacts to fisheries, and water quality standards. (Exs. APP-66, 73, DEP-10, 18, 20, 26-28, 38, 43; test. J. Kulowiec, 1/23/09, pp. 2048-2049, C. Nezianya, 2/6/09, pp. 2285–2287, 2293-2315, D. Simpson, 2/6/09, pp. 2322-2325, 2/9/09, p. 2530, 2/11/09, p. 2667.)

14. DNC submitted analytical data as part of its application. To determine potential sources of pollution, DEP staff reviewed this data to evaluate the wastewater characteristics for discharge components based on the types of contributing processes, chemical usage, the nature of the water source, measures in place to prevent and control spills, and any treatment provided. Staff also reviewed applicable technology-based effluent limitations and, using a "reasonable potential analysis," determined whether water quality-based effluent limitations would be necessary. This analysis included consideration of the kinds of treatment systems involved for certain effluent, the variability of the discharges, and effluent toxicity control requirements. DEP staff observed all areas where the wastewaters identified in the application are generated. The DEP also reviewed the application for consistency with applicable laws and regulations, including: §§316(a) and 316(b) of the Clean Water Act, 33 USC §§1326(a) and 1326(b); 40 CFR Part 122, Subpart A;[10] 40 CFR Part 125[11] and Subpart H;[12] 40 CFR Part 401.14[13] and 40 CFR Part 423;[14] CGS §§22a-92 through 22a-112; §22a-430; and RCSA §§22a-430-3, 22a-430-4, 22a-430-6, 2a-430-7. DEP staff's technical review integrated MPS process operations, intake water, effluent quality, treatment systems, and spill control

[9] These included the Marine Fisheries Division, the Planning and Standards Division, the Aquatic Toxicity Program and the Office of Long Island Sound Programs. (Test. C. Nezianya, 2/6/09, p. 2297.)
[10] *The National Pollutant Discharge Elimination System, Definitions and General Program Requirements.*
[11] *Criteria and Standards for the National Pollutant Discharge Elimination System.*
[12] *Criteria for Determining Alternative Effluent Limitations Under Section 316(a) of the [Clean Water] Act.*
[13] Cooling Water Intake Structures.
[14] Steam Electric Power Generating Point Source Category.

measures to assure that the activities authorized by a renewed NPDES permit would protect the waters of the state. (Exs. APP-86, 107, 108, 124, 131, DEP-8, 26-29, 30, 45; test. J. Kulowiec, 1/30/09, pp. 2036-2037, 2054-2112, C. Nezianya, 2/6/09, pp. 2284-2286, 2297-2305, 2/9/09, pp. 2508-2511, 2539-2545.)

c

Notices of Tentative Determination and the Prehearing Process

15. In August 2006, the DEP published its initial notice of a tentative determination to renew the applicant's NPDES permit and prepared a draft permit (August 2006 draft permit). A petition for hearing was filed on August 11, 2006;[15] the hearing process began with a status conference on October 19, 2006. (Exs. DEP-37, 38, Dkt file -5, 9, 15.)

16. This August 2006 draft permit required compliance with the EPA "Phase II rules"[16] for existing facilities and included a best technology available (BTA) determination[17] that was based on "balancing the costs versus the benefits of implementing particular technology for minimizing adverse environmental impacts at MPS." (Ex. DEP-38.)

17. In January 2007, before a hearing on the August 2006 draft permit was held, the US Court of Appeals for the Second Circuit issued its decision in *Riverkeeper, Inc. v. EPA*, 475 F. 3d 83 (2d Cir. 2007) (*Riverkeeper II*). The Court upheld a challenge to the Phase II rules,[18] holding that a cost-benefit analysis could not be used in making a BTA

[15] The DEP also received a petition for a hearing in March 1999; at that time, the DEP indicated that a hearing would be held prior to a final decision on the renewal of the permit. This petition and correspondence are part of the administrative record on file at the Office of Adjudications. (Dkt file – 1-3.)
[16] *National Pollutant Discharge Elimination System – Final Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities*, 69 Fed. Reg. 41, 625 (July 9, 2004).
[17] Section 316(b) of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake structures reflect the *best technology available* for minimizing environmental impacts. (Emphasis added.) 33 USC §1326(b).
[18] These rules set national standards for cooling water withdrawals by large, existing power-producing facilities. (Ex. APP-121.)

determination pursuant to §316(b) of the Clean Water Act, and remanding those rules back to the EPA for reconsideration.[19] These proceedings were suspended in June 2007 for staff to consider any impact of the *Riverkeeper II* decision on the August 2006 draft permit.[20]

18. As a result of that review, the DEP issued notice of its second tentative determination on December 13, 2007, with a revised draft permit (December 2007 draft permit). Since the BTA determination in the August 2006 draft permit was contrary to *Riverkeeper II*, this December 2007 draft permit did not include a requirement to comply with the suspended Phase II rules and included a new BTA determination that did not rely on a cost-benefit analysis. The Commissioner determined that the current location, design, construction and capacity of the cooling water intake structures at MPS do not represent the BTA for minimizing adverse environmental impacts. The Commissioner also recognized that there have been findings that reducing cooling water intake flows through the use of closed-cycle recirculation systems reflects the BTA for minimizing adverse environmental impacts and noted that information provided with the application identified such systems as the most effective technology for minimizing adverse environmental impacts. However, the Commissioner found that this identification was based upon "technologies that exist and not on an evaluation of whether closed-cycle cooling, or any other technology can be implemented at [the cooling water intake

[19] The EPA subsequently suspended the Phase II rules, directing that all permits for Phase II facilities should include conditions under §316(b) of the Clean Water Act developed on a Best Professional Judgment (BPJ) basis. 40 CFR §401.14. *Suspension of Regulations Establishing Requirements for Cooling Water Intake Structures at Phase II Existing Facilities*, 72 Fed. Reg. 37, 107 (July 9, 2007). (Ex. APP-121.)

[20] On April 1, 2009, the US Supreme Court ruled that the Clean Water Act neither requires nor prohibits cost-benefit analysis and left to the EPA a decision as to whether and how to compare costs and benefits when issuing new regulations for existing power plants. *Entergy Corp. v. Riverkeeper*, 556 U.S. ___, 129 S. Ct. 1498 (2009).

structures in use at MPS]." Therefore, to determine whether and what technologies can be implemented, this December 2007 draft permit requires DNC to "study the potential technological and operational measures, including, but not limited to, closed-cycle cooling for minimizing adverse environmental impacts from the cooling water intake structures [in use at MPS]." Once this study is completed, the Commissioner shall make a subsequent BTA determination, which shall be implemented through a new permitting process that shall include public notice and an opportunity for hearing. (Exs. DEP- 37, 38, Dkt file – 104; test. C. Taylor, 1/7/09, pp. 343-347, C. Nezianya, 2/6/09, pp. 2297-2301, 2306-2307.)

19. The December 2007 draft permit also provided for a varied program of near term improvements to environmental conditions in an effort to promote the recovery of the winter flounder population in the Niantic River. In particular, this draft permit required the installation and operation of variable frequency drives[21] (VFDs) to reduce the amount of cooling water used to generate electricity during the winter flounder spring spawning season. This draft permit also included an enforceable compliance schedule that required DNC: to conduct annual ecological monitoring of the environment in the vicinity of MPS, including updated impingement and entrainment studies; to assess the use of VFDs for a longer duration; and to evaluate the feasibility of using fine-mesh screens to reduce mortality of winter flounder larvae. (Exs. APP-72, 99, DEP-37, 38; test. R. MacManus, 1/6/09, pp. 106-110.)

[21] Variable frequency drives modulate the rate of the circulating water pump speed to reduce the volume of water drawn from Niantic Bay. (Test. R. MacManus, 1/6/09, p. 107.)

20. A public comment period was announced with the notice of tentative determination regarding the December 2007 draft permit; DNC and the intervening parties submitted comments. Thereafter, this proceeding reconvened with a status conference on February 6, 2008, which set a schedule for discovery (i.e., requests for the production of documents) and the exchange of prehearing information among the parties, as well as dates for a prehearing conference and the hearing. (Ex. DEP- 37, Dkt file – 107, 108, 110-112, 114, 116.)

21. An extensive period for prehearing procedures included a discovery conference to resolve outstanding disputes regarding the production of documents, the filing of briefs by the parties to outline the issues they believed were appropriate for adjudication, and an issues conference to determine the issues that would be the subject of the hearing.[22] (Dkt file – 118 - 132, 134, 135, 139, 140, 143-149, 153, 154, 158-160, 162-168, 170, 177.)

22. Another status conference was held on September 29, 2008 to reschedule the prehearing conference and the hearing; the original dates had to be continued due to an extended prehearing process. At this conference, DNC, DEP and intervening parties CFE and Soundkeeper submitted an executed Stipulation with a new revised draft permit dated September 26, 2008 (RDP). Issues that were previously raised were resolved or withdrawn as a result of the changes made to the December 2007 draft permit reflected in the RDP. This RDP became the subject of this hearing process. (Exs. APP-131,132, Dkt file-172-174, 176; test. C. Taylor, 1/7/09, pp. 307- 316, 318-333, 345, 425-426.)

[22] Notably, this hearing would not be the forum in which a subsequent BTA determination would be made. *Ruling on Reconsideration*, September 8, 2008, Deshais, J. (Dkt file – 170.)

23. In preparation for a November 18, 2008 prehearing conference, the parties filed prehearing information on October 24, 2008, specifically, lists of the issues to be adjudicated, proposed exhibits, and potential witnesses.[23] At the prehearing conference, Burton/CCAM verbally withdrew almost all of the 268 exhibits it had listed. A written summary of that conference set out the relevant issues, potential witnesses, and the status of proposed exhibits. Burton/CCAM, which had filed notice the day after the prehearing conference of its intent to re-submit some of its withdrawn exhibits, was directed to file a new exhibit list that adequately described exhibits regarding relevant environmental issues.[24] A new exhibit list was filed, but continued to include previously offered and conclusively excluded exhibits, as well as new exhibits on subjects previously ruled to be irrelevant. In accord with the objections of DNC and the DEP, these exhibits were excluded. Although directed to do so if it wished to present expert witnesses,[25] Burton/CCAM did not file a revised witness list before the hearing and was subsequently advised that without this information, these witnesses would testify as fact witnesses. (Dkt file – 176, 179-189, 202, 204, 207, 208.)

[23] The information submitted by Burton/CCAM included many proposed exhibits regarding irrelevant subjects, listed proposed witnesses without including their credentials, and added at least one additional irrelevant issue. (Dkt File -183, 184.)

[24] The day after the conference, Burton/CCAM filed notice of its "need to reinstate" many of its withdrawn exhibits. These exhibits were allowed to be re-submitted; however, Burton/CCAM was advised that exhibits on the following would be excluded: 1) Issues related to radiation, radioactive pollution or anything related to radiological discharges or alleged radioactive pollution from Millstone or any other nuclear power plant; 2) Violations or noncompliance of Millstone's former owner and/or operator ; 3) Criminal investigations by the US Department of Justice; 4) Any whistleblower allegations; 5) Claims and/or lawsuits of commercial fishermen; and 6) Allegations of collusion, cronyism or corruption. *Notice Regarding Burton Exhibits*, November 20, 2008, Deshais, J. (Dkt File-186, 187.)

[25] *Notice: Directive Regarding CCAM Witnesses*, December 23, 2008, Deshais, J. (Dkt file – 208.)

d
The Hearing

24. Following notice, an evening hearing was held on December 4, 2008 at the DEP Marine Division Headquarters in Old Lyme. Following the parties' presentations, the public was instructed on making comments for the record, including the impact of speaking under oath. During the comment session, a listed witness for CCAM spoke without being sworn; however, she did subsequently testify under oath as a fact witness at the evidentiary hearing. (Ex. DEP-40; video, 12/4/08; test. C. Besade, 2/11/09, pp. 2765-2790, 2/23/09, pp. 2938-3027.)

25. The evidentiary hearing began at the DEP in Hartford on January 6, 2009, and continued for eighteen days, ending on February 26, 2009. DNC presented eighty-nine exhibits and testimony by four fact witnesses and five qualified expert witnesses[26] who presented testimony in support of its application. The DEP presented twenty-one exhibits and two fact and qualified expert witnesses[27] who testified about its review of the application and its tentative determination to issue the RDP. Burton/CCAM offered

[26] Richard K. MacManus, DNC Director, Nuclear Engineering (Test. 1/6/09, pp. 37-251); Cathy C. Taylor, Director, Environmental Support, Dominion Resources, Inc. (Test. 1/6/09, pp. 252-264, 1/7/09, pp. 278-360, 1/8/09, pp. 366-525); Steven Matthess, DNC Chemistry Laboratory Supervisor (Test. 1/8/09, pp. 526-564, 1/9/09, pp. 673-718); Donald J. Danila, DNC Biologist III (Ex. APP-142; test. 1/9/09, pp. 856-913, 1/13/09, pp. 920-1153, 1/14/09, pp. 1168-1287, 1/15/09, pp. 1288-1449); Paul E. Grossman, DNC Manager of Nuclear Engineering (Test. 1/9/09, pp. 718-856); Rodney Rountree, PhD., ichthyologist and professor at the University of Massachusetts (Ex. APP-154, test. 1/15/09, pp. 1453-1532, 1/16/09, pp. 1547-1636); Charles Coutant, PhD., retired Research Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory (Ex. APP-139; test. 1/22/09, pp. 1656-1792, 1/23/09, pp. 1801-1894); Wayne Micheletti, President, Wayne C. Micheletti, Inc., industrial water and wastewater management expert (Ex. APP-152, test. 1/22/09, pp. 2223-2258, 1/23/09, pp. 2798-2832); and Joseph J. Kulowiec, a registered engineer with Malcolm Pirnie, Inc. , expert in water and wastewater treatment and water quality issues (Ex. APP-148, test. 1/23/09, pp. 1901-2017, 1/30/09, pp. 2029-2203, 2/9/09, pp. 2345-2480).

[27] Charles Nezianya, Sanitary Engineer III, DEP Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division (Ex. DEP-45; test. 2/6/09, pp. 2281-2315, 2/9/09, pp. 2484-2567, 2/23/09, pp. 2833-2909) and David Simpson, Director, DEP Bureau of Natural Resources Marine Fisheries Division (Ex. DEP-46, test. 2/6/09, pp. 2316-2336, 2/11/09, pp. 2587-2764).

testimony by Ms. Burton and one other fact witness.[28] One of its exhibits was admitted, but was later excluded;[29] approximately sixty proposed exhibits were marked for identification.[30] Burton/CCAM also conducted an extensive cross-examination of all the witnesses presented by DNC and the DEP. In accordance with the Stipulation, neither CFE nor Soundkeeper presented witnesses or exhibits. All of the parties made closing statements, including CFE on its own behalf and for Soundkeeper. (Ex. APP-131, Dkt file – 229, 232-239, 241, 243-244, 247, 248.)

e
Post-Hearing

26. On May 8, 2009, the parties filed post-hearing memoranda, which included revised exhibit lists to reflect the final status of exhibits after the hearing.[31] The parties also submitted proposed findings of fact and conclusions of law with accompanying briefs. The parties filed reply briefs on May 29, 2008. As directed after the hearing, the parties addressed the question of whether Burton/CCAM had met its burden to establish a prima facie case of "unreasonable pollution," as it had alleged when it intervened under

[28] During the hearing, subpoenas sought by Burton/CCAM to compel the appearances and testimony of two additional witnesses were quashed. The offers of proof submitted by Burton/CCAM failed to satisfy the criteria to support its requested action. (Dkt file – 229, 232-234, 236-239, 243, 246.)

[29] A nautical map of Niantic Bay was initially admitted over the objections of DNC and DEP, but was later disallowed because of the noncompliance of Burton/CCAM with the DEP rules of procedure and its failure to follow directives with respect to exhibits.

[30] Throughout the hearing process, Burton/CCAM often tried to introduce exhibits on issues that had been previously excluded or new exhibits that also concerned issues that had been deemed irrelevant to this permit proceeding. At the hearing, Burton/CCAM also repeatedly presented exhibits for admission during cross- examination. Many newly offered exhibits also lacked any proper foundation to be admitted. Nevertheless, Burton/CCAM was heard on its offers of proof regarding its proffered exhibits. However, new or previously offered exhibits that concerned irrelevant issues were excluded and proposed exhibits for which there was no foundation were excluded. Burton/CCAM was also unable to show good cause for its failure to previously submit or identify any new exhibits and they were not admitted. RCSA §22a-3a-6(q)(3). (Dkt file – 247, 248, 251.)

[31] The revised list filed by Burton/CCAM was not an accurate depiction of the exhibits marked for identification at the hearing; because no corrected list was filed, this exhibit list was excluded from the record of this proceeding. *Ruling,* March 27, 2009, Deshais, J. (Dkt file – 249-252, 256, 257, 260.)

the provisions of CGS §22a-19(a).[32] If this burden had been satisfied, the CEPA evaluation provided by §22a-19(b) requires that the hearing be continued to consider whether there are feasible and prudent alternatives to the once-through cooling system proposed in the RDP. Burton/CCAM did not meet its burden and the hearing was not reconvened. (Dkt file – 249, 267-271, 282, 283, 287.)

27. On May 26, 2009, Burton/CCAM moved to stay this administrative proceeding following the decision of the Connecticut Supreme Court in *Burton v. Commissioner of Environmental Protection*, 291 Conn. 789 (2009).[33] The motion was denied as there were no legal standards or direction by the Court in that decision that would compel a stay.[34] (Dkt file – 277, 284 – 286.)

2
The Millstone Power Station
a
The Site and the Station

28. MPS is located on the Millstone Point peninsula, about five miles west-southwest of the City of New London on the eastern Connecticut shoreline of Long Island Sound in the Town of Waterford. Formerly the location of a stone quarry, the approximately 500-acre site is bounded to the west by Niantic Bay, to the east by Jordan Cove, and to the south by Long Island Sound. The coastal waters around MPS have been classified by the DEP as Class SA, the highest quality coastal category. (Exs. APP-78, 108, 129, 162, DEP-8, 38; test. R. MacManus, 1/6/09, pp. 48-53, 73, J. Kulowiec, 1/30/09, p. 2119.)

[32] Burton/CCAM alleged that the water discharge is reasonably likely to have the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the state. CGS §22a-19(a).
[33] Burton/CCAM also filed a motion for a stay in the Superior Court. This motion was denied. *Nancy Burton v. Regina McCarthy, et. al.* CV-07-4028617-S. (Dkt file -275.)
[34] *Ruling: Motion for Stay*, June 9, 2009, Deshais, J. (Dkt file – 286.)

29. The active units at MPS are Unit 2 and Unit 3.[35] In operation since 1975, Unit 2 produces 870 megawatts (MW) of electricity; operational since 1986, Unit 3 generates 1230 MW, including MW produced with the seven percent "stretch power up-rate" approved by the US Nuclear Regulatory Commission (NRC) in November 2008.[36] MPS provides base load power to the ISO/New England distribution network.[37] (Exs. APP-78, 108, 115, 131, 167, DEP-38; test. R. MacManus, 1/6/09, pp. 53-54, 64-67.)

30. The cooling water intake structures for MPS are located in Niantic Bay to the west. To the south, discharges flow out to Long Island Sound through the quarry discharge channel, which is approximately the length of three football fields. The two openings at the end of the channel contain the quarry cuts, which is a consolidated outfall that connects the quarry channel to Long Island Sound. Renewal of the NPDES permit would authorize this continued intake of water from Niantic Bay and the discharge of water into Long Island Sound. (Exs. APP-78, 129, 167, DEP-38; test. R. MacManus, 1/6/09, pp. 48-53, 73-74.)

31. Strong tidal currents in the area of Millstone Point create a dynamic marine environment. These currents create an effective mixing and dilution of the thermal discharge and a relatively quick dispersion of the thermal heat load. (Exs. APP-129, DEP-38; test. C. Coutant, 1/22/09, p. 1709.)

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[35] Unit 1 was shut down in 1995 and is being decommissioned. The NRC licenses for Unit 2 and Unit 3 were renewed in 2005 and expire, respectively, in 2035 and 2045. (Test. 1/6/09, R. MacManus, pp. 62-64.)

[36] A power "up-rate" increases the power output from the power station so it is rated for a higher power level. This is a common practice within the nuclear power industry and was done at MPS without major modifications to the power plant. This up-rate complied with the current NPDES permit and will comply with the RDP. The increase in the thermal component of the discharge will be 1 ½ ˚ F. (Ex. APP-115; test. R. MacManus, 1/6/09, pp. 116 – 133, 190- 195, 244-251.) See *Burton v. Dominion Nuclear Conn., Inc.*, 2009 Conn. Super. LEXIS 28 (Conn. Super. Ct. Jan. 7, 2009) (Plaintiff had no standing to seek injunction to prevent up-rate; doctrines of pre-emption and primary jurisdiction also apply.)

[37] MPS does not respond to variances in load demand, but optimally delivers continuous power to the grid during typical operations. (Test. 1/6/09, R. MacManus, p. 54.)

b
Regulation

32. The discharges associated with MPS operations require an NPDES permit issued by the DEP. [38] The goal of an NPDES permit is to ensure that water quality will not be compromised. This permit provides limits on the amount of water that can be withdrawn from Niantic Bay to be used for cooling at MPS and restricts and prescribes the volume and characteristics of effluent discharges from MPS into Long Island Sound. Current MPS operations, including regulated activities associated with the power up-rate for Unit 3, are authorized by and comply with a valid NPDES permit that the DEP has administratively extended. (Exs. APP-63, 115, 131, DEP-38, 45; test. R. MacManus, 1/6/09, pp. 62-64, 121-132, C. Taylor, 1/7/09, p. 281, C. Nezianya, 2/6/09, pp. 2284, 2300-2308.)

33. Any radiological emissions from MPS operations are regulated solely by the NRC and are not regulated under the NPDES permit. DNC must submit the yearly monitoring reports it files with the NRC to the DEP Radiation Control Division, Bureau of Air Management; however, the discharge of radiological materials is preempted from state regulation.[39] Therefore, allegations regarding radioactivity, radioactive emissions or pollution or any other similar allegation of environmental harm from MPS discharges are not relevant to this permit renewal process. (Exs. APP-131, DEP-38; Hrg Officer-1; test. C. Taylor, 1/8/09, pp. 628, 662, J. Kulowiec, 1/23/09, pp.1926-1927.)

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[38] All municipal, industrial and commercial facilities that discharge wastewater directly from a point source into a receiving water body must obtain an NPDES permit. CGS §22a-430. The Administrator of the US EPA has authorized the DEP to administer an NPDES permit program. (Exs. APP-45, DEP-38.)

[39] *Train v. Colorado Public Interest Group*, 426 U.S. 1, 15, 26 (1976); *Connecticut Coalition Against Millstone v. Connecticut Siting Council*, 286 Conn. 57, 82 (2008). See also 40 CFR §190, 10 CFR §20.1301 and 10 CFR §50.36A.

c
Operations
(1)
Generally

34. MPS generates electricity when water drawn into Unit 2 and Unit 3 interacts with nuclear fuel, which is engaged in a fission chain reaction in the reactor vessel, producing heat. This heated water is then generated as pressurized steam that turns the turbines that power the generator to create the energy that goes out on the grid to a substation. Instrumentation at MPS records and/or controls the functions of the operating systems, the characteristics of the discharges, and the measurement and recording of the daily volume of water discharged. (Exs. APP-78/Attachments E, I & M, 167; test. R. MacManus, 1/6/09, p. 65.)

35. To condense the steam back to "feed water" condition, cooling water is passed through one of two main heat dissipation systems. This non-contact water passes either through steam surface condensers (circulating water systems) or heat exchangers (service water systems). The waste heat from the condensing process is transferred to this circulating water as it passes through the condenser tubes. There is no interchange of waters among the cooling systems; they are closed loops. This heated circulating water, as well as service water that provides cooling water for various MPS components, is collected in underground tunnels that exit to the quarry and is discharged into the Twotree Island Channel and Long Island Sound. (Exs. APP-65, 78, 108, 129, 162, 167; test. R. MacManus, 1/6/09, pp. 49-50, 65-67, 73-78.)

(2)
Intake Structures

36. Unit 2 and Unit 3 have intake structures that house circulating water pumps, the main source of flow to the condensers, and service water pumps. The Unit 2 intake structure has four circulating pumps and three service water pumps; Unit 3 has six circulating pumps and four service water pumps. The majority of the flow is through the circulating water pumps. Monitoring relative to the thermal components of the intake is performed on a continuous basis. This monitoring will continue under the RDP. (Exs. APP-71, 71/figure 2, 78, 108, DEP-38; test. R. MacManus, 1/6/09, pp. 83-85, 91.)

37. "Entrainment," the movement of an aquatic organism from intake to discharge, is defined as the incorporation of aquatic organisms, including all life stages of fish and shellfish, with intake water flow entering and passing through a cooling water intake structure and into a cooling water system. "Impingement" is the entrapment of aquatic organisms, including all life stages of fish and shellfish, on an intake structure or against a screening device during periods of intake water withdrawal. (Ex. APP-131; test. D. Danila, 1/9/09, pp. 904-905.)

38. Mesh screens protect the cooling and service water systems and prevent blockages in intake structures. Smaller fish and organisms can pass through these screens and become entrained, moving through the cooling water systems and out to the discharge. Data from ongoing DNC ecological monitoring has been used to evaluate entrainment impacts. Estimates of numbers of entrained larvae is a function of prevailing larval densities as well as volume of cooling water flow used by MPS. Given the same densities, it is possible that a reduced flow could result in a decreased rate of entrainment.

(Exs. APP-50, 71, 71/fig. 2, 78, 108, 129, 131, 132, DEP-38, 129; test. R. MacManus, 1/6/09, pp. 91- 95, D. Danila, 1/9/09, pp. 904-913, 1/13/09, pp. 966-970, 1116-1123.)

39. The intake structures for Unit 2 and Unit 3 have technology to protect the marine environment. Both have "curtain walls" that provide a barrier to keep out large objects, such as debris, ice, and certain surface marine plants and animals from the intake area. Behind these curtain walls are two-inch steel bar "trash racks," which prevent heavier objects below the water surface from coming into the structure to potentially damage any equipment. Traveling screens move slowly or quickly, depending on the weather, to remove and prevent debris from blocking the flow of cooling water into the intake areas. Pressure spray systems[40] wash these 3/8-inch mesh screens to dislodge fish and other aquatic organisms, which are then directed to Long Island Sound via fish-return systems. Screen rotations bring any impinged fish up to the surface of the water where they can break free of the screen. Lateral fish passageways are installed in the intake bay walls upstream of the traveling screens to allow fish to avoid the screen faces. (Exs. APP- 50, 71/fig. 2, 78, 108, 129, DEP-38, 45; test. R. MacManus, 1/6/09, pp. 91- 94, 202-205, D. Danila, 1/9/09, pp. 904-913, 1/13/09, pp. 965-970.)

(3)
Discharges

40. Discharged through identified point sources, wastewater discharges are mainly once-through non-contact condenser cooling water, plant service water, and related process wastewaters from Unit 2 and Unit 3, as well as some minor discharges associated

[40] Unit 2 uses a single high-pressure spray to convey impinged organisms and debris back to Long Island Sound. The screens at Unit 3 incorporate high and low-pressure spray systems that work in sequence to remove impinged aquatic organisms and debris. (Exs. App-50, 71, 78, 108, 129, DEP-38; test. R. MacManus, 1/6/09, pp. 92-93, D. Danila, 1/13/09, pp. 965-970.)

with the decommissioning of Unit 1. Other discharges include wash waters from intake screens, pump seal and bearing lubrication waters and related process wastewaters, site stormwater, groundwater and fire suppression system wastewaters, and drainage from plant-operating systems. All discharges are consolidated in underground collection tunnels constructed for Unit 2 and Unit 3 that direct the waters to the on-site quarry and then to the main discharge from the quarry cuts into Long Island Sound; discharges also flow into Niantic Bay and Jordan Cove. (Exs. APP- 78, 108, 129, 131, 162, 167, DEP-38; test. R. MacManus, 1/6/09, pp. 49-50, 66-67, 73-78, S. Matthess, 1/8/09, pp. 528-529, 540-541, J. Kulowiec, 1/30/09, pp. 2064-2065, 2081-2094, 2100-2102.)

41. The once-through cooling waters from Unit 2 and Unit 3 represent about 2.8 percent of the mean tidal flow through Twotree Island Channel just south of Millstone Point; the thermal plume created by the heated water is discharged into the Channel and is rapidly dispersed and assimilated by the strong currents. Thermal impacts from the discharges have been monitored for almost thirty years and annual reports are made to the DEP. This data provides information for a §316(a) determination pursuant to the Clean Water Act. (Exs. APP-1, 107, 124, 129, 131, 162, DEP-12, 38; test. C. Coutant, 1/22/09, pp. 1675-1677, 1771, J. Kulowiec, 1/23/09, pp. 1996-1997, 1/30/09, p. 2076.)

42. There is no treatment required for once-through non-contact condenser cooling water or service water required for plant safety systems. Some plant process wastewaters receive treatment consisting of one or more of the following: neutralization, coagulation, activated charcoal filtration, ion-exchange, demineralization, oil/water separation, and batch treatment of steam electric low volume wastewaters. (Exs. APP-78, 108, DEP-38, 45; test. S. Matthess, 1/8/09, pp. 555-559, J. Kulowiec, 1/30/09, pp. 2087-2088.)

(4)
Refueling Outages

43. MPS operates on an 18-month fuel cycle between refueling; a typical industry standard, this is consistent with its operating license issued by the NRC and is based on a variety of factors. Scheduling of refueling outages at MPS is done in coordination with the NRC and with ISO New England, which manages the region's electric power system (commonly referred to as the "grid"). (Ex. APP-88; test. R. MacManus, 1/6/09, pp. 95-107.)

44. The RDP provides that planned refueling outages shall occur between April 4 and May 14 in two out of every three years on an 18-month cycle. These planned outages are part of an effort by DNC to reduce cooling water flow during the larval winter flounder season. (Exs. APP-88, 131; test. R. MacManus, 1/6/09, pp. 95-107, 207-223, 228-230.)

d
Sampling and Monitoring
(1)
Chemical Analyses: Effluent

45. The current NPDES permit and the RDP require DNC to collect and analyze samples and log and review resulting data to determine compliance with effluent limits and other permit conditions. Each discharge has a monitoring/sampling requirement depending on its frequency; these requirements vary and are specific to a discharge. Data collected is recorded and reviewed for completeness and accuracy. Data is also analyzed to identify any trends, including adverse developments. The results of all sampling, monitoring, testing, and analyses of effluent quality that are used to demonstrate compliance are recorded in a monthly discharge monitoring report that is sent to the DEP.

DNC has complied with this requirement under the current permit. (Exs. APP-131, 167/Slide 4, DEP-38/Table 1; test. S. Matthess, 1/8/09, pp. 528-530, 538-555.)

46. Unit 2 and Unit 3 have on-site state-certified laboratories that monitor effluent discharge, administer quality assurance programs, and conduct all required chemical sampling. Both laboratories are staffed by qualified personnel and are inspected and audited by in-house and outside teams. Both have accredited training programs and procedures and standards to ensure the qualifications of personnel, uniformity and quality of sampling protocols, analytical procedures, and other quality assurance controls. (Exs. APP-131, DEP-38; test. S. Matthess, 1/8/09, pp. 528- 555, 573-576.)

(2)
Ecological Monitoring: Fisheries, Flora and Marine Life

47. Since 1976, the NPDES permit has required and will continue to require the submission of an annual ecological report to the DEP summarizing the data and findings of the ecological monitoring programs at MPS. This report represents a continuous and cumulative study of all of the data collected over thirty years and identifies trends based on this comprehensive data set. (Ex. APP-129; test. D. Danila, 1/9/09, pp. 877-881, 1/13/09, pp. 971-972, 1036- 1043, J. Kulowiec, 1/30/09, pp. 2107- 2108, C. Coutant, 1/22/09, pp. 1703-1731.)

48. The state-certified environmental laboratory at MPS monitors compliance with ecological testing requirements. Responsibilities of the lab, which is staffed by credentialed scientists and engineers and houses state-of-the-art equipment, include sampling, analyzing, and evaluating the results of its programs and interpreting the data that is collected. The scope of the comprehensive sampling and analysis efforts are approved annually by the DEP. The lab conducts six study programs: (1) winter

flounder; (2) American lobster; (3) eel grass; (4) rocky intertidal, which looks at sessile plants and animals[41] found in the intertidal zone; (5) benthic[42] infauna, which includes small organisms that live within the sediments of the marine environment; and (6) fish ecology, which studies certain species of fish and macro invertebrates. The programs conduct ambient testing in the waters around MPS; some aspects of the programs focus on MPS operations at the locations of the discharges and in water adjacent to the intake structures. The sampling program is considered unique in the field and continues to provide data that is considered to be valuable and of high quality regarding aquatic communities in the area of MPS. At certain times, other studies are also conducted and their results are also reported to the DEP.[43] (Exs. APP-75, 87, 129, 129a; test. C. Taylor, 1/7/09, p. 304, 1/8/09, pp. 398-404, 493, D. Danila, 1/9/09, pp. 866-889, 897-904, 1/13/09, pp. 1035-1044, 1050-1051, R. Rountree, 1/15/09, pp. 1498-1499, 1/22/09, C. Coutant, 1/15/09, pp. 1674-1675, D. Simpson, 2/11/09, pp. 2624-2625.)

49. Detailed fisheries monitoring programs have been ongoing at MPS since 1976. The data collected and analyzed provide a basis for an evaluation of the effects of water usage by MPS on various fish species and provide information on long-term abundance[44] trends, which are used to measure changes in fish populations. Conclusions regarding

[41] A sessile plant has no stalk; its leaves or flowers are attached directly to the stem. A sessile animal is permanently attached and not free-moving (e.g., a barnacle). (Test. D. Danila, 1/9/09, pp. 873-874.)
[42] "Benthic" means living in or on the bottom. (Test. D. Danila, 1/9/09, p. 874.)
[43] E.g., *Characterization of winter flounder…larval genetic stock structure within eastern Long Island Sound: estimation of larval entrainment and recruitment.* Dr. Joseph F. Crivello, University of Connecticut, September 11, 2003. (Ex. APP-87.)
[44] "Abundance" is a measure of the numerical, or number of organisms, according to a particular standard of measure, such as a unit area. (Test. D. Danila, 1/13/09, pp. 959-960.)

potential impacts on fisheries resources include consideration of the thermal component of the discharge. The winter flounder program, which targets specific life stages of the flounder for extensive sampling and study, has documented a decline in the abundance of adult spawning winter flounder in the Niantic River.[45] The decline in population is occurring in a relatively wide region along the coast of New England and has been attributed to factors such as overfishing, predation and climate influences. Abundance trends for these adult winter flounder are consistent with general trends in regional abundance in the southern New England area. The effects of cooling water usage at MPS in waters around MPS have been considered; however, no specific relationship has been found between the MPS operations and the loss of older juvenile winter flounder who could return to spawn as adults. Early life stages of the flounder may be entrained and/or impinged, however, older juveniles are generally able to avoid impingement and, if impinged, have a very high survival rate on the fish-return systems in place at MPS. (Exs. APP-71, 86, 87, 103, 118, 127, 129, 129a, 130, 161, DEP-28, 38, 46; test. D. Danila, 1/9/09, pp. 910-913, 1/13/09, pp. 958-972, 987- 1047, R. Rountree, 1/15/09, pp. 1471-1499, 1512-1514, C. Coutant, 1/22/09, pp. 1737-1743, D. Simpson, 2/6/09, pp. 2325-2332, 2/11/09, pp. 2704-2710, 2736-2742, 2756-2762.)

50. The other five sampling programs and studies of certain specific fish species[46] also find no impacts or significant changes in fish populations due to MPS operations. Some species will also benefit from early spring water flow reductions required by the

[45] Adult winter flounder in Niantic Bay are not a separate subspecies; winter flounder is recognized as a species comprised of local spawning groups. These flounder are less than 2 percent of the winter flounder in Connecticut waters. (Exs. APP-129, DEP-38; test. D. Simpson, 1/13/09, p. 1129, 2/6/09, p. 2330.)

[46] Other studies include: tautog, Atlantic menhaden, bay anchovy, gruby, cunner, and American sand lance. (Exs. APP-129, DEP-38.)

RDP. No relationship has been found between entrainment and American lobsters capable of being harvested; there is also a very high survival rate for impinged lobsters. Studies of lobster in southern New England waters attribute their decline to shell disease and a mortality event that occurred in western New England. Current eelgrass populations in the study areas are healthy and serving their function; fluctuations are not attributable to discharges from MPS. A change in the species composition in the community of plants and animals associated with the rocky intertidal zone of the shoreline was identified at or around the time of the construction and start-up of Unit 3 in the mid-1980s; since then, this community has remained lush and highly productive and has continued to synthesize and produce materials for other organisms to use. Benthic communities in the area are stable, productive and diverse and serve their function of providing food for larger organisms. Trends regarding the abundance of the species identified in fish ecology studies mirror the trends of the larger geographical area, some of which are likely due to increases in ambient water temperature.[47] Changes in fish communities cannot be attributed to any specific operational event at MPS. (Exs. APP-75, 129, DEP-38; test. D. Danila, 1/13/09, pp. 962, 973-1004, 1107, R. Rountree, 1/15/09, pp. 1495-1498, D. Simpson, 2/6/09, p. 2332, 2/11/09, pp.2689- 2695.)

51. Measures in place at MPS and in the RDP will mitigate impacts to aquatic life from impingement events. Data from the ongoing ecological program have been and will be used to evaluate entrainment impacts as a result of MPS operations. The RDP incorporates the recommendations of the DEP Marine Fisheries Division regarding

[47] E.g., an abundance of fish species typical of Mid-Atlantic states. (Test. D.Danila,1/13/09, pp.999-1004.)

mitigation of the entrainment impacts and provides sufficient measures to monitor trends in abundance of marine species. (Exs. APP-50, 71, 120, 129 - 131, DEP-38, 46; test. R. MacManus, 1/6/09, pp. 91-92, D. Danila, 1/9/09, pp. 878-880, 1/13/09, pp. 1002-1003, 1052-1063, C. Coutant, 1/22/09, p. 1738, D. Simpson, 2/6/09, pp. 2326- 2332.)

3
The Stipulation

52. The Stipulation executed among DNC, DEP and intervening parties CFE and Soundkeeper resolved and/or withdrew issues that were to be adjudicated and declared support for the September 26, 2008 RDP. This RDP maintains the BTA determination of the December 2007 draft permit and preserves the other requirements of that draft permit. The RDP also provides that DNC will carry out and submit certain studies, including a study of alternative technologies that will be used in making a subsequent BTA determination. The RDP clarifies some issues, includes new reporting requirements, and sets interim deadlines for certain actions to be taken regardless of when the final decision in this permit proceeding is issued. DNC agreed to comply with the interim deadlines for these submittals. (Ex. APP-131; test. C. Taylor, 1/7/09, pp. 307-308, 311-314, 318-349.)

53. Pursuant to the Stipulation, DNC agreed to a compliance schedule with dates certain for actions that include: (1) the completion of a detailed evaluation by August 2012 of all available technologies, including closed-cycle cooling systems, that can be installed to minimize adverse environmental impacts from Millstone's cooling water intake structures; (2) the operation of variable frequency drives (VFDs) at Unit 2 and Unit 3 by January 1, 2011 to reduce the intake of cooling water during the spring spawning season (April 4 to May 15) for winter flounder and, by July 1, 2012, the

submittal of a study that evaluates the efficiency of the VFDs, including a determination of whether they are capable of extending the duration of flow reductions beyond the spawning season; (3) the performance of a detailed feasibility study of the potential benefits of using fine mesh screens to reduce entrainment of winter flounder larvae; and (4) the preparation and submittal of progress reports on or before January 1 and July 1 of each year regarding the technology assessment and other evaluations, including the progress of DNC toward achieving interim milestones. Upon issuance of a final NPDES permit, DNC will conduct a detailed study to evaluate certain winter flounder population dynamics and determine steps that could be taken to augment the natural reproduction of winter flounder in the Niantic River and become an active participant in a Nitrogen Working Group to study the impact of nitrogen loading on aquatic life and natural resources in the Niantic River. (Ex. APP-131; test. C. Taylor, 1/7/09, pp. 322- 345.)

54. Dates certain were included in the RDP rather than compliance dates prompted upon issuance of a renewed NPDES permit. The RDP also clarified and added details to the description of the information to be considered by the Commissioner in determining a subsequent BTA. (Ex. APP-131; test. C. Taylor, 1/7/09, pp. 322-333.)

55. DNC has been working toward implementation of these permit terms, and has submitted the following to the DEP on or before the dates listed in §10 of the RDP and in accordance with the Stipulation: (1) the scope of study for the Impingement Mortality and Entrainment Characterization (IMEC) study; (2) the feasibility study of fine mesh screens; (3) the schedule and list of permits and other approvals for the VFDs; (4) a status report regarding the VFDs; and (5) a progress report on completion of the IMEC Study and technology evaluation. The construction and installation of structures and equipment

necessary for the operation of the VFDs is underway at MPS; DNC intends to have the VFDs in place to implement the flow reduction required under the RDP upon issuance of the renewed NPDES permit. (Exs. APP-71, 88, 131, 132; test. R. MacManus, 1/6/09, pp. 108 - 116, 198–202, C. Taylor, 1/7/09, pp. 349-352, 1/8/09, pp. 387- 397, J. Kulowiec, 1/30/09, p. 2108, P. Grossman, 1/9/09, pp. 740-763, 801-808.)

4
The Revised Draft Permit
a
Section 10

56. Section 10 of the RDP requires the following specific actions by DNC.

1. 10(A) -- Conduct annual ecological monitoring of the supplying and receiving waters around MPS, including updated impingement and entrainment impact studies.
2. 10(B) – Ensure that all planned spring refueling outages occur between April 4 and May 14 in a calendar year.
3. 10(C) – Comply with water intake flow limits, including the installation, operation and maintenance of variable frequency drives (VFDs) and subsequent study of the efficacy of such VFDs.
4. 10(D) and 10(E) – Conduct a laboratory-scale evaluation of the feasibility of fine-mesh screens to reduce the mortality of winter flounder larvae.
5. 10(F) and 10(G) – Participate in a Nitrogen Working Group to review and evaluate nitrogen loading and management in the Niantic River/Bay watershed area.
6. 10(H) and 10(I) – Conduct a study on the feasibility of methods for augmenting natural reproduction of the Niantic River population of winter flounder.
7. 10(J) – Conduct additional work on winter flounder population dynamics modeling and assessment.
8. 10(K) and 10(M) – Evaluate the best technology available (BTA) that can be implemented for the Unit 2 and Unit 3 cooling water intake structures ("Feasibility Study").
9. 10(N) and 10(P) – Conduct an Impingement Mortality and Entrainment Characterization (IMEC) Study to provide information to characterize current impingement mortality and entrainment and to support the development of a calculation baseline based upon historical operations associated with the cooling water intake structures for Unit 2 and Unit 3.
10. 10(Q) -- Provide status reports and comply with interim milestones towards the completion of the technology study required under this subsection.
11. 10(S) – Perform sampling and analysis of the final effluent after chemical cleaning and/or chemical decontamination has been initiated.

12. 10(T) -- Submit an annual report regarding all discharges that have been redirected to an alternative pathway as provided pursuant to this subsection.
13. 10(U) and 10(V) – Conduct an evaluation of changes in the structure of the quarry cut outfalls to minimize the areal extent of the thermal discharge plume.

(Exs. APP-131, 132, DEP-38; test. C. Taylor, 1/7/09, pp. 324-325, 343-347, P. Grossman, 1/9/09, p. 764, D. Danila, 1/13/09, p. 971, W. Micheletti, 2/5/09, pp. 2249-2250, C. Nezianya, 2/6/09, p. 2307.)

b
Discharges: Permitted Volumes and Effluent Limitations

57. The RDP authorizes a maximum discharge of 2,255,625,000 gallons per day, which are primarily once-through non-contact cooling waters, as well as plant service waters, related process wastewaters, and storm waters from MPS operations. Approximately 844,652,000 gallons per day of these waters come from Unit 2; about 1,410,933,000 gallons per day are from Unit 3. (Exs. APP-131, DEP-38/Table 1; test. S. Matthess, 1/8/09, p. 546, J. Kulowiec, 1/30/09, pp. 2062-2065.)

58. A maximum of 500,000,000 gallons per day of other smaller and intermittent discharges are also authorized in the RDP. These are from Unit 2 and Unit 3 intake structure screen wastewaters, pump seal and bearing lubrication water and related process wastewaters, site stormwater, groundwater, fire suppression system wastewaters, and plant operating systems-related drainage. These discharges are directed to the eastern end of Niantic Bay off Millstone Point. Also authorized are two discharges from the MPS Marine Laboratory, one to Long Island Sound and the second into Jordan Cove. (Exs. APP-131, DEP-38; test. R. MacManus, 1/6/09, pp. 74-78, J. Kulowiec, 1/30/09, pp. 2100-2102.)

59. Discharges are subject to effluent guidelines and standards for the steam electric power generating point source category codified at 40 CFR Parts 122, 123, 124 and 125 of the NPDES and Part 423 of the Effluent Guidelines and Standards. The RDP sets out general and specific effluent limitations and establishes monthly monitoring requirements. Effluent limitations are consistent with "best available technology" determined on a case-by-case basis using "best professional judgment" and the standards set out in RCSA §§22a-430-3 and 22a-430-4. These standards are more stringent than those prescribed under federal law in 40 CFR Part 423. As required under the RDP, DNC will implement and maintain practices and facilities that will produce the minimum amount of wastewater to the maximum extent practicable and will prohibit the addition of water to dilute effluent concentrations in the discharge. In addition to requiring compliance with these limitations, the RDP provides that MPS is subject to DEP inspection at any time. (Exs. APP-78/Attachment L, 131, DEP-29, 30, 45; test. C. Nezianya, 2/6/09, pp. 2298-2311.)

60. The reasonable potential analysis (RPA) conducted by DEP staff determined that there are pollutants of concern that may reasonably cause or contribute to an exceedence of the Connecticut Water Quality Standards (WQS) criteria. As a result, the RDP includes additional effluent limitations for certain constituents that do not have standards in 40 CFR Part 423, but which were identified by the RPA. (Ex. APP-131; test. C. Nezianya, 2/6/09, p. 2305.)

61. Consistent with the WQS, the RDP provides that the discharges from MPS shall not contain chemical constituents in concentrations that are harmful to human, animal, or aquatic life, or that make the receiving waters unsafe or unsuitable for fish or shellfish

and their propagation or impair their palatability, or impair the waters for other uses. (Ex. APP-131; test. J. Kulowiec, 1/30/09, pp. 2077-2079, 2137-2138, D. Simpson, 2/6/09, pp. 2331-2332.)

62. The RDP has effluent limitations for toxic substances such as heavy metals, free available and total residue chlorine, total suspended solids, oil and grease, and hydrazine. There are also effluent limitations on internal waste streams, including limits on flow. While there are no specific limits, monitoring is also required for certain alternative corrosion inhibitors. (Exs. APP-131, DEP-37, 38, 40, 45; test. J. Kulowiec, 1/30/09, pp. 2090-2092, C. Nezianya, 2/6/09, pp. 2302-2305.)

63. An acute aquatic toxicity test is a measure of a discharge's potential to pose an immediate threat to aquatic life from the constituents of a discharge. A chronic toxicity test assesses the long-term potential for harm to reproductive and growth processes needed to sustain healthy aquatic species based upon the constituents in a discharge. To assure compliance with effluent limitations, the RDP requires that DNC conduct chronic toxicity testing four times per year for the discharge from the quarry cuts into Long Island Sound. Acute toxicity testing is required for certain wastewater discharges from Unit 2 and Unit 3. (Exs. APP-131, DEP-38, 45.)

(1)
Water Quality-Based Standards and Limitations
(a)
Hydrazine

64. Hydrazine, which reduces oxygen, is a chemical that is widely used throughout the electrical power generating industry for corrosion control in steam generation systems and other areas where metal works must be protected. Hydrazine does not bio-accumulate; it breaks down naturally into nitrogen and hydrogen. The potential risk of

hydrazine as an animal and human carcinogen and its general toxicology make it a chemical of concern. (Exs. APP-37, DEP-38, 45; test. S. Matthess, 1/8/09, pp. 561, 564, J. Kulowiec, 1/30/09, pp. 2089-2090.)

65. Hydrazine is discharged in controlled amounts at several locations within MPS. The most significant sources of hydrazine are the two condensate polishing facilities for Unit 2 and Unit 3, accounting for more than ninety percent of the total amount discharged. Hydrazine may be present in discharges from several other locations at MPS and monitoring at those discharges is required. (Exs. APP-37, 66, 131/Tables J and V, DEP-38; test. J. Kulowiec, 2/9/09, p. 2371.)

66. MPS conducts an ongoing comprehensive hydrazine minimization and treatment program. DNC has significantly reduced the amount of hydrazine discharged through the use of alternatives and new procedures, particularly from the Unit 2 and Unit 3 condensate polishing facilities. Under the RDP, the limitations of hydrazine from these two major internal sources would be reduced by fifty percent compared to previously authorized levels to reflect the degree of treatment that can be reliably and effectively provided. This lower limit would provide an even greater margin of safety to protect aquatic life in Long Island Sound. (Exs. APP-5, 6, 58, 59, 64, 66, 104, 131, DEP-38; test. S. Matthess, 1/8/09, pp. 558-569, 602, 603, J. Kulowiec, 1/30/09, pp. 2084, 2088, C. Nezianya, 2/6/09, p. 2303.)

67. MPS does not use hydrazine in its pure form; it uses a diluted solution of water and hydrazine at a concentration of thirty-five percent. This diluted solution is further thinned with de-ionized water when it is batched in a chemical feed tank before being metered into either the steam generators or a component for corrosion protection.

Metering enables MPS to control and monitor the concentration of hydrazine and supports the efforts of DNC to minimize hydrazine. (Exs. APP-6, 38, 66; test. S. Matthess, 1/8/09, pp. 562-563, J. Kulowiec, 1/30/09, pp. 2089-2090.)

(b)
Aquatic Toxicity

68. The RDP provides that no discharge shall cause acute or chronic toxicity in the receiving water body beyond any zone of influence specifically allocated to that discharge in the RDP. The standard for compliance is 100 percent nontoxic; this is the same standard in the current NPDES permit. There have been approximately fifteen years of positive results measured at MPS, i.e., there has never been a toxicity test result that suggests any measurable potential for short term impairment to the local biological community resulting from toxic constituents in discharges from MPS to Long Island Sound. (Exs. APP-131, DEP-38; test. J. Kulowiec, 1/30/09, pp. 2068-2073.)

69. The RDP replaces current required quarterly acute and chronic toxicity testing for each of the discharges from Unit 2 and Unit 3 with a chronic toxicity test for the combined discharge that enters Long Island Sound. The RDP also mandates quarterly acute toxicity testing of combined Unit 2 and Unit 3 wastewater discharges from turbine and control building floor and roof drains, excluding stormwater run-off, emergency diesel jacket cooling water, Unit 2 and Unit 3 condensate surge tank drainage, hydrolazing wastewater, de-ionized water and seawater, fire suppression system drainage and flushes, reject wastewaters from reverse osmosis water treatment system, air conditioning and air compressor condensate, and miscellaneous power plant discharges that discharge into Niantic Bay. (Exs. APP-131, DEP-37, 38; test. J. Kulowiec, 1/30/09, pp. 2073, 2143-2145.)

(2)
Technology-Based Limitations

70. Technology-based limitations are incorporated into the RDP. These limitations are based on both the technology available to control the constituents and water quality-based effluent limits. (Exs. APP-131, DEP-38; test. C. Nezianya, 2/6/09, p. 2304.)

(a)
Chlorine

71. Chlorine is a constituent commonly used at facilities such as MPS to prevent and/or control the unwanted growth of organisms in large cooling water systems. At MPS, chlorine is used in both the condenser cooling water and the service water systems. (Ex. DEP-38; test. S. Matthess, 1/9/09, p. 684, J. Kulowiec, 1/30/09, p. 2066.)

72. A total residual chlorine limitation of 0.1 milligrams/liter (mg/L) is specified for DSN 001-1, the combined discharge for Unit 2 and Unit 3 to Long Island Sound at the quarry cuts. In addition, free available chlorine limits of 0.25 mg/L are specified for other discharges, including the service water discharges for Unit 2 and Unit 3. The RDP also provides that "chlorine shall not be discharged in the condenser cooling water for more than two hours in any one day." These limitations are more stringent than those in 40 CFR Part 423[48] and reflect DEP staff's BPJ. (Exs. APP-131, DEP-38, 45; test. J. Kulowiec, 1/30/09, pp. 2066-2067, C. Nezianya, 2/6/09, p. 2303, 2/9/09, pp. 2542-2543.)

[48] 40 CFR Part 423 establishes effluent standards to control constituents from electric power plants. These include chlorine, oil and grease, total suspended solids and heavy metals. (Test. C. Nezianya, 2/9/09, pp. 2542-2543.)

(b)
Oil and Grease

73. A maximum daily concentration of 15 mg/L total oil and grease is specified for a number of internal waste streams as well as for direct discharges, including various storm drain outfalls to receiving waters. These effluent limitations are more stringent than those in 40 CFR Part 423 and reflect the exercise of BPJ by DEP staff. (Exs. APP-131, DEP-38, 45; test. J. Kulowiec, 1/30/09, p. 2080, C. Nezianya, 2/6/09, p. 2303.)

(c)
Total Suspended Solids

74. A maximum daily concentration of 30 mg/L total suspended solids is specified in the RDP for a number of internal waste streams as well as for direct discharges to receiving waters. These effluent limitations are more stringent than those in 40 CFR Part 423 and reflect the BPJ of DEP staff. (Exs. APP-131, DEP-38, 45, 95; test. J. Kulowiec, 1/30/09, p. 2080, C. Nezianya, 2/6/09, p. 2303.)

(d)
Heavy Metals

75. Effluent limits for heavy metals such as boron, cadmium, copper, iron, lead and zinc have been established for several discharges at MPS, primarily for internal waste stream operations. All of the limits are the same as those in the current NPDES permit. The RDP contains average monthly effluent limits of 1 mg/L for total chromium, copper, nickel, iron, and zinc and .1 mg/l for cadmium and lead for wastewaters associated with steam generator chemical cleaning and decontamination, processes that occur very infrequently. These standards are either more stringent than EPA limits or they reflect actual EPA limits. (Exs. APP-131, DEP-38; test. J. Kulowiec, 1/30/09, p. 2085.)

76. Effluent limits for copper and iron are set in 40 CFR Part 423; the limits in the RDP are more stringent and are based on the exercise of BPJ by the DEP. The limits for chromium, cadmium, and lead also reflect the exercise of BPJ. Boron is monitored at multiple discharge locations; molybdenum is monitored for those plant systems where it has been substituted for hydrazine for corrosion control. (Exs. APP-106, 131, DEP-38, 45; test. J. Kulowiec, 1/30/09, pp. 2084-85, C. Nezianya, 2/6/09, p. 2303.)

(e)
Other Substances

77. Chemicals used at MPS for corrosion control and metallurgy protection[49] are monitored to show that only trace levels are present in discharges. These chemicals are used infrequently and are pre-screened for their low toxicity characteristics. (Exs. APP-5, 131, DEP-38; test. J. Kulowiec, 1/30/09, pp. 2091-2092.)

(f)
Internal Waste Streams

78. The RDP contains limits for a number of internal waste streams at MPS, which reflect DEP staff's exercise of BPJ; many limits have been continued from the current NPDES permit. Limits for internal waste streams are included in the RDP because many internal waste streams require treatment and these limits help ensure that treatment systems are effective. (Exs. APP-131, DEP-37, 38, 45; test. C. Nezianya, 2/6/09, p. 2303.)

[49] Ethanolamine, methoxypropylamine, dimethylamine, and dimethyldithiocarbarmate. (Ex. DEP-38.)

c
Spill Prevention and Control

79. In its application, DNC provided an updated spill prevention and control plan with all required certifications. This plan is designed to prevent and control spills, leaks, or other unplanned or accidental releases of toxic or hazardous substances from MPS. The following measures have been taken at MPS to further prevent contamination: (1) 110 percent secondary containment provided for the oil storage tank and its loading area; (2) water separators to treat stormwater prior to discharge; (3) secondary containment provided for the oil-cooled transformers; (4) containment areas for lubricating oil, hydraulic oils and cleaning chemicals storage areas; (5) sodium hydroxide, sulfuric acid, sodium hypochlorite, and scale inhibitor storage areas surrounded by curbs for secondary containment or have drains routed to chemical sumps which send spills to the treatment system or back to the process. (Exs. APP-7, 78/Attachment K, 108, 112, DEP-38, 45; test. J. Kulowiec, 1/30/09, pp. 2034-35, 2041.)

d
Treatment

80. The RDP describes the wastewater discharges from MPS and the types of treatment for those discharges. Some discharges require no treatment, such as non-contact cooling water and service water; some low volume plant process wastewaters receive treatment as required in one or more of the following forms: neutralization, coagulation, activated charcoal filtration, ion-exchange demineralization, oil/water separation, and batch treatment. There is also an ongoing comprehensive hydrazine minimization and treatment program that will continue under the RDP. (Exs. APP-5, 6, 7, 66, 78, 131, DEP-37, 38/Table 1, 45; test. S. Matthess, 1/8/09, pp. 555-572.)

81. The RDP identifies where treatment systems will be utilized and outlines the requirements for monitoring those systems. The treatment facilities at MPS are designed to prevent "upsets" or disturbances, malfunctions, or instances of noncompliance resulting from variations in waste water strength or flow rate. The RDP requires that screenings, sludges, chemicals and oils resulting from the wastewater treatment process be disposed at approved locations or hauled off-site by a licensed waste hauler. (Exs. APP-78/ Attachments I, M, 131, DEP-38/Table 1; test. S. Matthess, 1/8/09, pp. 546-554.)

e
Sampling and Monitoring

82. The current NPDES permit and the RDP require specific effluent and ecological sampling and monitoring and identify sampling collection locations and methods for these processes; the RDP requires more frequent sampling in some cases.[50] Both permits provide that the results of these efforts will be submitted in monthly discharge monitoring reports to the DEP. (Exs. APP-131/Sections 6, 7, 8; test. S. Matthess, 1/8/09, pp. 528-529, 538-558, 572- 576, 1/9/09, pp. 713-717, J. Kulowiec, 1/23/09, pp. 2002-2004, 1/30/09, pp. 2061-2062, 2064-2067, 2103-2105.)

83. The chemistry and ecological laboratories support these requirements and have satisfied the sampling and monitoring requirements of the current NPDES permit; the laboratories are capable of providing and will provide reliable data under the requirements of the RDP. (Test. S. Matthess, 1/8/09, pp. 574-576, D. Danila, 1/13/09, pp. 1050-51, R. Rountree, 1/15/09, pp. 1498-99, C. Coutant, 1/22/09, pp. 1730-31.)

[50] E.g. the RDP requires sampling for TSS (total suspended solids) as a daily composite, which is four samples at 4-hour intervals for 24 hours, resulting in four or five more samples per day than the requirement under the current NPDES permit. (Ex. APP-131; test. S. Matthess, 1/9/09, pp. 716-717.)

f

Intakes: Volume Limitations and Flow Reduction Technology

84. In addition to limits on discharges, the RDP limits the amount of waters that can be withdrawn from Long Island Sound and used by MPS to 2,190,000,000 gallons per day.[51] (Exs. APP-131, DEP-38.)

85. To reduce impingement mortality and entrainment during the winter flounder spawning season, the RDP requires the installation of VFDs at the intake structures for Unit 2 and Unit 3. Their operation will reduce the amount of cooling water needed by MPS during this season, which runs from April 4 to May 14. This flow reduction technology will be used in conjunction with spring refueling outages, which will also occur during the spring spawning season, to reduce entrainment impacts by an average of forty to fifty percent. The RDP calls for enhanced sampling of entrainment and requires DNC to evaluate whether the VFDs could be used beyond the spring spawning season to reduce cooling water intake flows. (Ex. APP-131; test. C. Taylor, 1/7/09, p. 355.)

5

Clean Water Act -- §§316(a) and 316(b) Compliance

a

Thermal Discharge -- §316(a)

(1)

Connecticut Water Quality Standards

86. The DEP evaluated the temperature effects of the thermal discharges from MPS to receiving waters in accord with §316(a) of the federal Clean Water Act (CWA), 33 USC

[51] From April 4 to May 14, the intake flow limits are reduced from 2,190,000,000 to the following reductions: to 1,270,000,000 in 2011; to 1,467,300,000 in 2012; and to 1,095,000,000 in 2013. After May 14 until June 5 or until the first day after May 14 when the intake water temperature reaches 52˚ F, whichever is sooner, the intake flow limits are reduced from 2,190,000,000 to 1,467,300,000. (Exs. APP-119, 131, DEP-38.)

§1326(a), which requires that the effluent limitations for a thermal discharge assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in the receiving waters near a facility. There are no federal technology-based or water-quality based limits for facilities such as MPS regarding the thermal component of its discharge; however, the Connecticut WQS do include standards. Section 10 of the WQS allows for the establishment of a zone of influence[52] when permitting discharges to surface waters in order to allocate a portion of the receiving waters for mixing and assimilation of the discharge. Section 10 states that the zone of influence for assimilation of a thermal discharge "shall be limited to the maximum extent possible and as a guideline shall not be greater than 25% of the cross sectional area or volume of flow of the receiving water." (Exs. APP-1, 67, 119, 122, 131, DEP-8, 38, 45; test. D. Danila, 1/13/09, pp. 1046-1047, C. Coutant, 1/22/09, pp. 1674-1676, 1680, C. Nezianya, 2/6/09, pp. 2301-2302.)

87. Consistent with the current NPDES permit, the RDP establishes a zone of influence that shall not exceed a radius of 8000 feet from the discharge outlet at the quarry cuts. This 8000-foot limit was based on a thermal plume model developed for MPS. The mixing zone,[53] defined by the extent of a four degree rise in temperature, is less than the 8000 feet limit of the zone of influence.[54] The RDP requires that DNC

[52] Defined as the entire area of mixing from the discharge out to where the temperature change would not be measurable. Generally referred to as the thermal plume. (Test. C. Coutant, 1/22/09, p. 1750.)

[53] A mixing zone is an area where an effluent discharge undergoes initial dilution and is extended to cover the secondary mixing in the ambient water body. A mixing zone is an allocated impact zone where water quality criteria can be exceeded as long as acutely toxic conditions are prevented. Water quality criteria must be met at the edge of a mixing zone. Technical Support Document for Water Quality-based Toxic Control , *Compilation of EPA Mixing Zone Documents*, US EPA, Office of Water, EPA 823-R-06-003, Washington, DC: July 2006. (Test. C. Coutant, 1/22/09, p. 1749.)

[54] Remark (3) of Table A on page 11 of the RDP establishes that the boundary of the mixing zone shall not exceed a radius of 8000 feet from the discharge outlet at the quarry cuts, establishing a maximum zone of mixing from a thermal perspective. (Ex. APP-131; test. J. Kulowiec, 1/23/09, pp. 2120-2123.)

remap the thermal plume and evaluate changes in the outfall structure that may lead to further minimization of the areal extent of the thermal zone of influence. (Exs. APP-1, 67, 119, 122, 131, DEP-38; test. C. Coutant, 1/22/09, pp. 1749-1750, 1772-1781.)

88. The factors set out in Section 10 (A) through (E) of the WQS that must be considered in establishing a zone of influence were considered by DNC in making its application to the DEP and found to be satisfied by the DEP when it tentatively approved this application. These factors include: the characteristics of the thermal discharge; the allowance for a continuous zone of passage for free swimming and drifting organisms; the effect of the discharge on the spawning and growth of indigenous aquatic organisms; and the effect of the discharge on the aesthetic quality of the receiving water. (Exs. APP-1, 65, 67, 73, 83, 93, 97, 103, 107, 119, 122, 124, 129, 129a, 131, DEP-8, 12, 38, 45; test. D. Danila, 1/13/09, pp. 970-1047, C. Coutant, 1/22/09, pp. 1680–1743, J. Kulowiec, 1/30/09, pp. 2045-2046, 2073-2077, C. Nezianya, 2/6/09, pp. 2301-2302, D. Simpson, 2/6/09, pp. 2328-2329.)

89. Section 10 provides that water quality criteria shall apply outside the zone of influence for a discharge and implements requirements for the portion of Long Island Sound into which MPS discharges, designated a Class SA water body under the WQS. As to allowable temperature increase, the Class SA water quality criteria provide that "there shall be no changes from natural conditions that would impair any existing or designated uses assigned to this Class, and in no case exceed 83 degrees F [Fahrenheit], or, in any case raise the temperature of the receiving water more than 4 degrees F. During the period including July, August and September, the temperature of the receiving water shall not be raised more than 1.5 degrees F unless it can be shown that spawning

and growth of indigenous organisms will not be significantly affected." (Exs. APP-131, DEP-8, 38; test. C. Coutant, 1/22/09, pp. 1682-1684.)

90. The requirements for the thermal discharges from MPS are consistent with the WQS. Potential thermal effects associated with the seven percent up-rate will be minor. The RDP imposes a 105 degree F maximum temperature limit on the discharge from the quarry cuts into Long Island Sound. The RDP also prohibits the discharge from increasing the temperature of the receiving waters by more than 83 degrees F, or, in any case, from raising the temperature of the receiving waters by more than 4 degrees outside the mixing zone. During July, August and September, the increase in temperature is more than 1½ degrees, but less than 4 degrees; this increase will not significantly affect spawning and growth of indigenous organisms. (Exs. APP-131, DEP-8, 38; test. C. Coutant, 1/22/09, pp.1681-1685, 1713- 1715, 1730, 1736, D. Simpson, 2/11/09, pp. 2759-2761.)

(2)
Delta-T

91. The RDP also includes conditions limiting the delta-T, which is the difference between the temperature of the intake water and the temperature of the water being discharged. The delta-T for the discharge from Unit 2 into the quarry is 32 degrees F; the delta-T for the discharge from Unit 3 into the quarry is 28 degrees F. (Exs. APP-119, 131, DEP-38.)

92. In addition to reducing impingement mortality and entrainment by reducing the amount of intake water, the operation of the VFDs during the winter flounder spawning season will lessen the amount of water available to transfer the heat generated by the operation of MPS, raising the temperature of the water discharged. In order to maintain

optimal generating capacity at this reduced flow, the RDP establishes a higher delta-T for the time when the VFDs are operating;[55] however, the temperature of the discharge still cannot exceed 105 degrees F. The discharge will exit the quarry at a lower velocity, which may minimally alter, but not negatively impact, the rocky shore aquatic community (i.e., attached algae and relatively sedentary invertebrates) in a small, limited area of shoreline adjacent to where the combined discharge exits to Long Island Sound. The relatively small temperature increase for a short duration will also have minimal effect on resident flora and fauna. (Exs. APP-119, 122, 131, DEP-38, 45; test. R. MacManus, 1/6/09, pp. 107-108, D. Danila, 1/15/09, pp. 983, 1315.)

93. The RDP requires that after May 14 of each year (the end of the winter flounder spawning season) intake flows remain reduced until June 5 or the date when the water temperature at the cooling water intake structures exceeds 52 degrees F, whichever is sooner. This criterion is specified to ensure that entrainment mitigation will continue until the larval winter flounder seasonal peak is over. These flow reductions will result in a higher delta-T, which is necessary to accommodate normal thermal loads with reduced cooling water flows to maintain a safe and efficient operation. Delta-T will return to 32 degrees F thereafter. (Exs. APP-119, 122, DEP-38, 45.)

94. The revised delta-Ts resulting from the reduced flows during the winter flounder spawning season will not affect the condition of the RDP that the temperature of the waters of Long Island Sound outside the zone of influence not increase above 83 degrees F, or by more than 4 degrees. This requirement will remain in effect, even when the

[55] For the discharge from Unit 2, the new delta-T is 44˚ F or 48˚ F during pump failure or maintenance. For the discharge from Unit 3, the new delta-T is 30˚ F or 36˚ F during pump failure or maintenance. For discharges from the quarry cuts into Long Island Sound, the new delta-T is 41˚F. (Ex. APP-131.)

VFDs are operating. (Exs. APP-119, 122, 124, DEP-38; test. C. Coutant, 1/22/09, p. 1683, J. Kulowiec, 1/30/09, pp. 2045-2046.)

(3)
Thermal Impacts

95. The thermal impacts from the MPS discharges come almost exclusively from the discharge of once-through cooling waters from Unit 2 and Unit 3. The thermal plume from MPS operations is dispersed and assimilated by the strong currents off Millstone Point with little apparent effect on the area's ecology. This location is well-suited for heat dissipation and is the primary driver of the thermal plume's dynamic behavior, thereby limiting its impacts on aquatic biota. Thermal impacts are limited to a small geographic area near the immediate vicinity of the discharge and do not threaten species' viability or the ecological integrity of the surrounding waters of Niantic Bay, Jordan Cove or Long Island Sound. (Exs. APP-67, 107, 119, 122, 124; DEP-38; test. D. Danila, 1/13/09, p. 1046, C. Coutant, 1/22/09, pp. 1697, 1731, 1736- 1743, 1771.)

96. Thermal discharge plumes are capable of impeding fish migration. The thermal discharge from MPS does not impede fish migration because of the open water nature of the discharge location, which provides for rapid dilution to ambient temperatures and ample opportunity for fish to move around any potential thermal barrier. (Exs. APP-67, 107, 119, 122, 124, DEP-38; test. C. Coutant, 1/22/09, pp. 1728, 1771, D. Simpson, 2/11/09, pp. 2761-2762.)

97. Because the thermal component of the discharge is consistent with the WQS, no variance from the WQS or any other applicable requirement is needed. The WQS assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving waters. (Exs. APP-98, 124, DEP-38, 45; test. C. Taylor,

1/7/09, pp. 333-335, D. Danila, 1/13/09, pp. 1043-1044, C. Coutant, 1/22/09, pp. 1680, 1718-1719, 1726-1727, 1732-1733, C. Nezianya, 2/6/09, pp. 2301-2302.)

b
Cooling Water Intake Structures and Best Technology Available -- §316(b)
(1)
BTA Determination

98. Section 316(b) of the CWA, 33 USC §1326(b), regulates cooling water intake structures, providing that the location, design, construction, and capacity of these structures reflect the best technology available (BTA) for minimizing adverse environmental impact. Following *Riverkeeper II*, the EPA directed that the Phase II rule was suspended and that that all permits for Phase II facilities (such as MPS) should include conditions under §316(b) that are developed on a "best professional judgment" (BPJ) basis. (Exs. APP-121, DEP-38; test. C. Nezianya, 2/6/09, pp. 2310-2311.)

99. A BTA determination involves several elements, some of which can be implemented immediately or in the very near term, such as the installation and operation of VFDs. It also refers to other elements that would be under future consideration, if adequate and additional information can be obtained which indicates that those particular technologies might be applicable at a facility. Using BPJ, the DEP made a BTA determination consistent with the requirements of §316(b) of the Clean Water Act. This BTA determination is based on the requirements of §10 of the RDP, which include: (1) the design and installation of VFDs to control and limit cooling water intake flow; (2) an enforceable compliance schedule for the installation and operation of the VFDs; (3) the performance of specific studies such as the Impingement Mortality and Entrainment Characterization Study; (4) the provision of findings and recommendations to the DEP in reports related to all studies; (5) a subsequent BTA determination made by the DEP

based on its review of these findings and recommendations; and (6) the provision of public notice and an opportunity for a hearing in connection with the subsequent BTA determination. These terms and conditions assure that the cooling water intake structures will reflect the BTA for minimizing adverse environmental impacts. (Exs. APP-70, 71, 73, 74, 79, 82, 83, 88, 96, 99, 101, 102, 128, 131, DEP-12, 20, 45; test. R. MacManus, 1/6/09, pp. 107-113, P. Grossman, 1/9/09, pp. 739-741, W. Micheletti, 2/5/09, pp. 2247-2253, 2/23/09, p. 2827, C. Nezianya, 2/6/09, pp. 2306-2311, 2/9/09, p. 2497.)

(2)
Subsequent BTA Determination
(a)
Feasibility Studies

100. NU conducted a feasibility study in 1993 to review flow reduction technologies and concluded that there were no cooling water alternatives that would measurably increase the winter flounder population. This conceptual study was prepared at a screening-level of scrutiny as approved by the DEP and did not provide a detailed evaluation of which of the technologies examined could actually be implemented by MPS. The study provided information intended for initial screenings of technologies that may or may not be applicable at a particular site. In response to the request of the DEP for additional evaluation of possible technology alternatives to reduce entrainment, DNC provided another feasibility study on flow reduction technologies in 2001, which was also conducted at a conceptual level of detail. These two studies enabled the DEP to determine that certain theoretical technologies had been reviewed and screened out so as not to proceed with any further consideration. Variable frequency drive technology was an alternative reviewed in the 2001 feasibility study and was not screened out. A series of interactions between DNC and the DEP and between the DEP and ESSA regarding flow

reduction technologies led to an eventual decision to install and operate VFDs at MPS to address reduction of flow. (Exs. APP-3, 65, 70, 71, 73, 74, 79, 82, 83, 85, 87, 88, 101, 102, 131, 161, DEP-10, 12, 18, 20, 26, 27, 38, 44; test. R. MacManus, 1/6/09, pp. 112-115, P. Grossman, 1/9/09, pp. 723- 763, W. Micheletti, 2/5/09, pp. 2239-2244.)

101. DNC is required under §10(K) of the RDP to conduct a feasibility study to evaluate the BTA that can be implemented for the Unit 2 and Unit 3 cooling water intake structures. The RDP establishes what issues must be included in the scope of study of potential technological and operational measures, including, but not limited to, closed-cycle cooling, for minimizing adverse environmental impacts from the cooling water intake structures for Unit 2 and Unit 3. Section 10(L) provides that upon DEP approval of the scope of study and a schedule, DNC shall conduct the evaluation in accordance with that scope and schedule and submit a comprehensive report for the Commissioner's approval. (Exs. APP-131, DEP-38; test. W. Micheletti, 2/5/09, pp. 2249-2253.)

102. Based upon review and consideration of all the information submitted pursuant to this report, study results, any supplemental or other information that may be required, and any subsequent law or regulation then in effect, §10(R) provides that the Commissioner shall make a subsequent BTA determination consistent with §316(b) of the CWA and CGS §22a-430(a). DNC will be required to implement measures that reflect this BTA for the cooling water intake structures at Unit 2 and Unit 3 to minimize adverse environmental impacts to the greatest extent possible. (Exs. APP-131, DEP- 37, 38; test. 1/7/09, C. Taylor, pp. 345-347, W. Micheletti, 2/5/09, pp. 2247-2249, C. Nezianya, 2/6/09, pp. 2306 – 2307.)

(b)
VFDs and Refueling Outages

103. The RDP requires the implementation of technological and operational measures to reduce flow volumes, thereby reducing potential impacts relating to entrainment and impingement. In addition to requiring the design, installation and operation of VFDs to reduce cooling water intake flows at the intake structures for Units 2 and 3, the RDP mandates that refueling outages be scheduled in two of every three years during the winter flounder spawning season (April 4 to May 14). The VFDs will operate concurrently with this schedule, resulting in a maximum degree of flow reduction. This will reduce cooling water usage by more than forty percent during the peak period of the annual winter flounder spawning season, which will result in less entrainment of winter flounder larvae. To prepare for the operation of VFDs, DNC is currently putting this technology in place for Units 2 and 3. (Exs. APP-88, 131, DEP-37, 38; test. R. MacManus, 1/6/09, pp. 104-108, 110-116, C. Taylor, 1/7/09, pp. 323-324, P. Grossman, 1/9/09, pp. 740-741, D. Danila, 1/13/09, pp. 1116-1117.)

(c)
Additional Requirements of the RDP

104. Section 10(A) of the RDP requires that DNC continue to conduct biological studies of the supplying and receiving waters around MPS. The scope of these studies shall include intertidal and sub-tidal benthic communities, finfish communities, lobster and winter flounder populations, and entrained plankton. A detailed Annual Ecological Report of the results of these studies shall be submitted annually to the DEP. Section §10(C) provides that this report will include flow monitoring data and/or other measurements as necessary to demonstrate compliance with the entrainment reduction

performance standards in effect, including a calculated estimate of the reduction in entrainment of larval winter flounder. (Ex. APP-131.)

105. Section 10(C)(5)(e) requires DNC to report to the DEP the results of its evaluation of the efficacy of the operation of the VFDs in achieving compliance with the intake flow limits and its assessment of the possibility of extending the use of the VFDs beyond the winter flounder spawning season. (Ex. APP-131.)

106. Section 10(D) requires DNC to undertake a laboratory-scale feasibility study to examine the effectiveness of fine-mesh screens to reduce entrainment of winter flounder larvae. The feasibility of implementing fine-mesh screen technologies at Unit 2 and 3 intake structures will be part of the Commissioner's BTA evaluation. (Ex. APP-131.)

107. Section 10(F) mandates that DNC participate in the DEP Nitrogen Working Group to review and evaluate nitrogen loading and management in the Niantic River. DNC shall also conduct investigations that contribute to and complement the studies and monitoring identified by the Working Group. These studies may include, but are not limited to: monitoring ambient nitrogen concentrations in the Niantic River and other environmental conditions relevant to water quality in the River; identifying sources of nitrogen to the River; and providing assistance in the evaluation of mitigation alternatives that would help reduce nitrogen loads in the River. (Ex. APP-131.)

108. Pursuant to §10(H), DNC shall perform a study on the feasibility of augmenting the natural reproduction of the Niantic River population of winter flounder by transplanting pre-spawn winter flounder collected from other areas of Long Island Sound or Block Island Sound to the Niantic River or by other alternative augmentation

measures. Section 10(I) requires DNC to provide the DEP with a comprehensive report which describes the investigation and includes identified information. (Ex. APP-131.)

109. Section 10(J) requires that on or before one year after issuance of the permit, DNC shall submit a report to the DEP that evaluates certain winter flounder population dynamics and impact assessment modeling issues. The issues to be assessed are detailed in subsections (1), (2) and (3) of §10(J). (Ex. APP-131.)

110. These measures, along with all other requirements of §10 of the RDP will support a subsequent BTA determination by the Commissioner as required by §316(b) of the Clean Water Act. (Test. C. Nezianya, 2/6/09, pp. 2306-2307.)

(d)
DNC Compliance with the RDP

111. DNC will be able to comply with the requirements of the RDP. In addition to its compliance history, there was abundant evidence of the organization and capabilities of DNC, including monitoring, sampling, analyses, and reporting under its current NPDES permit that will continue under the RDP. There was also testimony regarding the work that has been started and/or completed in compliance with the requirements of the RDP. DNC has the processes and capacities in place to enable it to fulfill the requirements of the RDP that, if issued, will renew its current NPDES permit under revised terms and conditions. (Test. R. MacManus, 1/6/09, pp. 112-116, 121-133, C. Taylor, 1/7/09, pp. 287, 350-351, 366, S. Matthess, 1/8/09, pp. 574-576, P. Grossman, 1/9/09, pp. 763-766, D. Danila, 1/9/09, pp. 871-880, 1/13/09, pp. 1050-1051, R. Rountree 1/15/09, pp. 1498-1499, C. Coutant, 1/22/09, p. 1731, J. Kulowiec, 1/30/09, pp. 2112-2115, W. Micheletti, 2/5/09, p. 2253.)

B
CONCLUSIONS OF LAW

1
Remaining Issues for Adjudication: Burdens of Proof

The Stipulation effectively eliminated all contested issues for adjudication raised by DNC, CFE and Soundkeeper. However, DNC still had its burden to demonstrate by a preponderance of the evidence that the conduct authorized by a renewed NPDES permit would comply with all relevant state and federal laws and regulations. In addition to its unsuccessful claim of unreasonable pollution under CGS §22a-19(a), as an intervening party, Burton/CCAM could challenge the sufficiency of the evidence presented by DNC. Although an intervening party may derive its party status by alleging unreasonable pollution, failure to establish a prima facie case does not preclude such a party from also contesting the sufficiency of the applicant's evidence. See *Finley v. Inland Wetlands Commission,* 289 Conn. 12, 40 (2008) (intervenor can prevail on appeal by proving department's determination not based on substantial evidence).

DNC met its burden of proof by a preponderance of the substantial evidence presented during this administrative proceeding. This evidence included the testimony of credible fact and qualified and credible expert witnesses. The determination of the credibility of expert witnesses and the weight to be accorded their testimony is within the province of the trier of facts, who is privileged to adopt whatever testimony he reasonably believes to be credible.' (Internal quotation marks omitted.) *Melillo v. New Haven*, 249 Conn. 138, 151, 732 A.2d 133 (1999)." *Windels v. Environmental Protection Commission,* 284 Conn. 268, 291 (2007).

Burton/CCAM did not offer any direct expert testimony or documentary evidence refuting this consistent and reliable testimony presented by DNC. In addition, in its extensive and often unrestricted cross examination of witnesses for DNC and the DEP, Burton/CCAM was unsuccessful in its attempts to impeach the credibility of any of these witnesses or elicit any new information relevant to this proceeding.[56]

Burton/CCAM was also unsuccessful in trying to introduce issues during the hearing that had been previously and consistently ruled irrelevant or to have evidence admitted that had not been submitted or identified prior to the hearing.[57] In its post-hearing memoranda, Burton/CCAM continues to raise issues that are not within the scope of this adjudication, to make claims that are not supported by any evidence in the record, or to misstate facts or law that are part of the record. In addition, beyond references to several statutory provisions and excerpts from the Connecticut WQS, Burton/CCAM does not provide any citations to legal authority or any citations opposing the legal arguments set forth by DNC and the DEP in their post-hearing memoranda.[58]

Despite these insufficient efforts, Burton/CCAM does address the following subjects in its post-hearing brief that are comparatively relevant to this decision. However, as discussed below, the record clearly demonstrates that Burton/CCAM failed to present a preponderance of substantial evidence at the hearing or in its post-hearing submittals to effectively challenge the substantial evidence and law on these issues.

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[56] "It is well settled that our rule restricts cross-examination to matters covered in the direct examination, except as they involve credibility alone." (Internal citations omitted.) *State v. Cooper*, 227 Conn. 417, 431 (1993). However, the court has broad discretion in determining the scope of cross examination. Id. See Connecticut Code of Evidence, §6-8(a) (scope of cross examination).

[57] See RCSA §22a-3a-6(q)(3)(evidence not submitted or identified before hearing not admitted unless demonstration of good cause for failure to do so earlier).

[58] Burton/CCAM argues that the DEP filing should be stricken as it does not refer to the transcript. The DEP memo cites exhibits; two of which are written testimony of DEP witnesses. This filing is not contrary to my post-hearing instructions. *Post-Hearing Directive*, March 3, 2009, Deshais, J. (Dkt file – 249.)

a
Clean Water Act
(1)
BTA Determination

Burton/CCAM asserts that the RDP violates §316(b) of the Clean Water Act and that the DEP has failed to "uphold the public trust" because the RDP does not include a BTA determination. According to Burton/CCAM, the record contains sufficient evidence that BTA requires MPS to convert to a closed-cycle cooling system.

The *Riverkeeper II* decision upheld the requirement that cooling water intake structures reflect BTA, but did not mandate the implementation of closed-cycle cooling. Following *Riverkeeper II*, the EPA directed that permits such as the RDP should include §316(b) conditions that are developed on a Best Professional Judgment (BPJ) basis.

The current §316(b) conditions of the RDP reflect a BTA determination that includes effluent limitations, the use of VFDs to reduce cooling water flow, and required studies of potential technologies and operational actions to address and reduce adverse environmental impacts, as well as a subsequent determination of BTA for the cooling water intake structures at MPS. The terms and conditions of the RDP are consistent with the exercise of BPJ by DEP staff. That judgment by staff took advantage of available information to make decisions regarding certain technologies and to set out a time table and a procedure by which to obtain information concerning other technologies that might be applicable in the future. The terms and conditions of the RDP will assure that the Commissioner is able to make a subsequent determination of BTA based on the information to be obtained from the mandated studies outlined in the RDP, including a study of closed-cycle cooling as a potential technology for reducing adverse environmental impacts from the cooling water intake structures at MPS.

(2)
Current NPDES Permit

Burton/CCAM claims that because the record does not include the NPDES permit, [59] it is not possible to assess DNC/MPS compliance with that permit or to determine whether the RDP complies with §402(o) of the Clean Water Act, which prohibits the issuance of a renewed permit that "contain[s] effluent limitations which are less stringent than the comparable effluent limitations in the previous permit."[60] Burton/CCAM also claims that it "appears from the record that the RDP does violate §402(o) with regard to thermal effluents [sic] and radioactive discharges."

Current compliance was established by the uncontroverted credible testimony of qualified expert witnesses and abundant supporting documentation. This evidence also demonstrated where effluent limitations in the RDP are the same as or more restrictive than the limitations in the current permit, satisfying the requirement of §402(o).[61]

(3)
Protection of Indigenous Marine Life

Despite the assertion of Burton/CCAM to the contrary, the evidence presented by DNC and the DEP is that the thermal effluent from MPS has not had, and will not have, a permanent, measurable and irreversible impact on the indigenous marine life and the aquatic environment. Burton/CCAM did not present sufficient credible evidence to successfully challenge this compliance with §316(a) of the Clean Water Act.

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[59] Burton /CCAM tried to introduce the current permit as its exhibit during its cross-examination of witnesses during the hearing over the objections of the other parties, but could not show good cause for its failure to submit or identify this document as its exhibit before the hearing. See RCSA §22a-3a-6(q)(3) (upon objection by a party, the hearing officer shall not admit into evidence any document which was not submitted or identified before the hearing as directed, unless the party offering the document demonstrates good cause for the failure to submit or identify it earlier).

[60] This provision prohibits "backsliding" on effluent limitations in reissued permits. 33 USC §1342(o).

[61] Allegations regarding "radioactive discharges" are not within the jurisdiction of the DEP.

b

Connecticut Water Quality Standards

Burton/CCAM alleges that the discharge from MPS is prohibited by §9(B) of the WQS Surface Water Quality Standards because it flows into Class SA surface waters and is proscribed by 9(A) because it is not of short duration and is not necessary to remediate surface water or ground water pollution. These provisions do not affect consideration of this discharge; §10 specifically applies to discharges to surface water permitted under CGS §22a-430. This statute allows the Commissioner to establish zones of influence when permitting discharges in order to allocate a portion of the receiving waters for mixing and assimilation of the discharge.

Sections 10 (A) through (E) outline the specific factors that the Commissioner must consider in establishing a zone of influence. Burton/CCAM also argues that there is no evidence that DEP assessed these factors, including an assessment of the factors required to be assessed for their "environmental value,"[62] including an assessment of the "effects of the proposed discharges on human recreational use of the nearby public beaches."

Contrary to the assertions of Burton/CCAM, there is abundant evidence in the record that the DEP considered all the relevant factors outlined in Section 10 in making its tentative determination to issue the RDP, including evidence provided by DNC. There was also evidence that the extent of the area impacted by the thermal component of the discharge does not reach any public beaches.

[62]Assessment of environmental value considers the characteristics of the receiving surface water including type of water body, number and type of aquatic habitats, and value to human uses (aesthetic, fishing and recreation). Note: Section 10(E) requires an assessment of environmental value only when there are other discharges in the receiving surface water body. (Ex. DEP-8.)

c

The Stipulation and the RDP

Burton/CCAM argues that the RDP is "transparently" a product of the Stipulation, which derived from a "secret meeting" closed to the public and CCAM. Burton/CCAM also claims that these proceedings are "fatally tainted" by the undue influence of DNC and because the Stipulation dictated a "results-driven administrative proceeding."

The RDP is clearly a product of the Stipulation, which expressly supports the RDP. As with many matters that involve agreements between or among parties, meetings did take place that led to the Stipulation and the RDP. The specifics of the negotiations among the parties, including reasons why decisions may have been made, are not relevant to an adjudication concerning the RDP that was a result of these discussions.

The parties, including the DEP,[63] were not obliged to have included the public or Burton/CCAM at their meetings. As long as meetings or communications among some parties to a proceeding do not involve the hearing officer, they do not contravene the administrative process as they do not violate the prohibition against ex parte communication set out in the Uniform Administrative Procedure Act. CGS §4-181(a).

An administrative proceeding serves to protect the public interest by guarding against any attempt on the part of parties to evade judicial review and scrutiny. *Brookridge District Association v. Planning and Zoning Commission of the Town of Greenwich,* 259 Conn. 607, 616 (2002). This hearing was a complete adjudication of whether the application and the RDP comply with the applicable state and federal law and regulations. Burton/CCAM was a party and active participant in this process.

[63] DEP staff meetings or meetings between staff and parties in a negotiation are not public meetings and notice of them is not required. CGS §1-200(6).

d
Additional Claims

Burton/CCAM also presents other claims concerning the RDP in its post-hearing memoranda. These include allegations that the RDP allows: the release of unlimited amounts of hydrazine along "thirteen pathways" for which no limit of hydrazine has been established; the release of unlimited/unidentified/unmonitored chemicals; and a higher delta-T than the current permit "notwithstanding that Millstone Unit 1 has closed." Burton/CCAM has raised these claims, as well as others concerning the RDP, at this point in the hearing process without providing any reference to evidence or facts in the record that would support its allegations. Burton/CCAM also does not provide any analysis to challenge the substantial evidence in the record that the RDP satisfies the requirements of applicable law and regulation regarding these issues.[64]

Finally, Burton/CCAM declares that numerous findings of fact proposed by DNC "must be rejected as meaningless and self-serving and without evidentiary support." However, Burton/CCAM provides nothing more than these unsupported pronouncements. It is not possible or permissible for a fact finder to create an argument for a party; therefore, these claims merit no further consideration.

[64] See e.g. Findings of Fact #s 61-63, 65-67, 91-94.

2 Focus of Adjudication: The Revised Draft Permit

a Scope of Review

The Commissioner is authorized to issue or renew a permit for any discharge of water, substance or material into the waters of the state. CGS §22a-430(a). The Commissioner may only exercise this power upon a determination that any proposed discharge would not cause pollution to the waters of the state or any proposed system to treat such discharge would protect the waters of the state from pollution. CGS §§22a-430(b)(B) and 22a-430(b)(C). The Commissioner must also consider the criteria and standards that are applied to determine whether an application is complete, whether an applicant will be able to comply with the terms and conditions of a proposed permit, and whether a discharge will pollute the waters of the state or whether a treatment system will prevent pollution of the waters of the state. RCSA §§22a-430-3 and 22a-430-4.

The Commissioner must also determine that the terms and conditions of a proposed permit comply with §§316(a) and 316(b) of the Clean Water Act. USC §§1326(a) and 1326(b). Section 316(a) requires an evaluation of the impacts of thermal discharges from MPS, which are based on the Connecticut WQS. Section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impacts. The EPA has directed that conditions under §316(b) are to be developed on a Best Professional Judgment (BPJ) basis for permits for facilities such as MPS. Finally, the Commissioner must determine that the proposed permit will be consistent with the goals and policies of the Connecticut Coastal Management Act. CGS §§22a-90 through 22a-112.

b
General Statutes §22a-430

A permit is required in order to "initiate, create, originate or maintain any discharge of water, substance or material into the waters of the state." CGS §22a-430(a). As required in order for the DEP to issue a permit, a preponderance of the substantial evidence in this matter supports a determination by the Commissioner that the discharges authorized by the RDP will not cause pollution to the waters of the state, §22a-430(b)(A), and that treatment systems provided for in the RDP will protect the waters of the state from pollution, §22a-430(b)(C).

(1)
Limitations on Discharges

The RDP sets a maximum discharge volume for non-contact once-through cooling waters, plant service waters, related process wastewaters and storm waters that are consolidated and eventually discharged into Long Island Sound. The RDP limits total volumes for smaller and intermittent discharges. Discharges from MPS are subject to applicable federal effluent guidelines and standards and are consistent with "best available technology" determined by the DEP on a case-by-case basis using Best Professional Judgment and standards that match or exceed those set under federal law.

The RDP also includes additional effluent limitations that do not have federal standards, but which, if not present, could reasonably cause or contribute to an exceedence of the state WQS. Consistent with these WQS, the RDP requires that discharges contain no concentrations that are harmful to human, animal or aquatic life, or which make the receiving waters unsafe or unsuitable for fish or shellfish and their propagation or impair their palatability, or impair the waters for other uses.

The RDP sets water-quality based and technology-based effluent standards and limitations for toxic substances. Even where there are no specific limits, monitoring is required for certain substances used for corrosion control and metallurgy protection. The RDP contains limits for internal waste streams at MPS; many of these streams require treatment and the limits will help ensure that these treatment systems are effective.

Chronic toxicity testing must be conducted four times per year for the discharge from the quarry cuts into Long Island Sound. Acute toxicity testing is required for certain wastewater discharges from Units 2 and 3. The RDP identifies the wastewater discharges from MPS, the types of treatment for those discharges, and generally describes those discharges. Treatment systems will be utilized and the monitoring of those systems is required. Treatment is not required for once through non-contact condenser cooling water or service water needed for plant safety systems; however, the RDP does authorize treatment as necessary for certain low-volume wastewaters prior to discharge.

Updated spill prevention and control plans for Unit 2 and Unit 3 demonstrate that protection from accidental release of chemicals from MPS will be provided. The current NPDES permit and the RDP also require specific effluent and ecological sampling and monitoring and identify sampling collection locations and methods for this process. The RDP also requires more frequent sampling in certain cases. On-site chemistry and ecological laboratories that support these requirements have satisfied obligations of the current permit; efforts such as the fish monitoring program have shown no impacts or significant changes in fish populations due to operations at MPS. The extensive record of sampling and monitoring by these laboratories demonstrates that they will be capable of meeting the new requirements of the RDP and providing the DEP with reliable data.

(2)
Limitations on Intakes

The RDP limits the amount of water that can be withdrawn from Niantic Bay, the body of water used almost exclusively by MPS for cooling and other operational purposes. To reduce impingement mortality and entrainment during the winter flounder spawning season (April 4 to May 14), the RDP requires the installation and operation of variable frequency drives (VFDs) at the intake structures for Unit 2 and Unit 3. This flow reduction technology will be used in conjunction with spring refueling outages, which also take place during the spring spawning season; this will reduce entrainment impacts by an average of forty to fifty percent. The RDP also requires DNC to evaluate whether VFDs could be used beyond the spawning season to further reduce the impact of cooling water intake flows.

The actions to be taken by DNC pursuant to the RDP include: on-going compliance with water flow limits and the installation, operation, and maintenance of VFDs and the subsequent study of the feasibility of such VFDs; an evaluation of the feasibility of fine-mesh screens to reduce the mortality of winter flounder larvae; studies and continued monitoring of the winter flounder found in the Niantic River to preserve and enhance that population; the preparation of a study to characterize current impingement mortality and entrainment and support the development of a calculation baseline based upon historical operations associated with the cooling water intake structures for Unit 2 and Unit 3; the sampling and analysis of final effluent after chemical cleaning and/or chemical decontamination has been initiated; the evaluation of changes in the structure of the quarry cut outfalls to minimize the extent of the thermal discharge plume; the reporting of the status of compliance with interim milestones; and the

evaluation of the best cooling water technology available that can be implemented for Unit 2 and Unit 3, including as assessment of closed-cycle cooling technology. These actions, some of which DNC has already completed, will ensure that the activities authorized under a renewed NPDES permit pursuant to the terms and conditions of the RDP, will not cause pollution to the waters of the state and systems to treat the discharge will protect those waters from pollution.

c
RCSA§ §22a-430-3 and 22a-430-4

Sections §§22a-430-3 and 22a-430-4 establish the procedures, criteria and standards appropriate for determining whether an application for a permit is complete, whether an applicant would be able to comply with the terms and conditions of a proposed permit, and whether a discharge will pollute the waters of the state or if the applicant's treatment system is adequate to prevent pollution of the waters of the state.

(1)
RCSA §22a-430-3

Section 22a-430-3 sets forth general conditions that apply to water discharge permits. The RDP complies with all relevant subsections of this regulation.

As required by RCSA §22a-430-3(b), the RDP incorporates all applicable regulatory provisions expressly or by reference, including the provisions in §22a-430-4. DNC has shown that it will be able to comply with all terms and conditions of the permit, as required by §22a-430-3(e). In compliance with §22a-430-3(f), the RDP incorporates sufficient terms and conditions ensuring proper operations at MPS. Finally, as required by §22a-430-3(p), the spill prevention and control plan submitted by MPS to the DEP incorporates measures sufficient to prevent or minimize and control unplanned releases.

(2)
RCSA §22a-430-4

This regulation outlines the procedures and criteria governing the issuance of water discharge permits, including the information required to be part of the permit application and the preliminary review procedures of the DEP. Subsection (c) of §22a-430-4 sets out the requirements for a complete application, subsection (d) outlines the preliminary review process, and (e) establishes the criteria for the issuance of a tentative determination.

Section 22a-430-4(d) sets forth the preliminary review process for an application. Under this process, the applicant submitted an application that was determined to be complete following an assessment by the DEP as to its sufficiency pursuant to the requirements of subsection (c). As part of this initial review process, DNC provided the DEP with additional or supplemental information. The DEP determined that this application was "complete" or sufficient and began its technical review. DNC properly submitted addenda and supplemental filings in support of its application and also filed reports and studies to further assist the DEP with its technical review of that application.

The requirements of §22a-430-4(e)(1) were satisfied; therefore, the DEP could reach its tentative determination that the discharge will not cause pollution to the waters of the state and any proposed treatment system will protect the waters of the state from pollution. The record shows that operations at MPS, including treatment systems, and the terms and conditions of the RDP comply with the relevant provisions of this subsection of §22a-430-4. These include: effluent limitations required by §22a-430-4(l); sludge disposal requirements of §22a-430-3(g); resource conservation requirements of §22a-430-3(o); the spill prevention and control plan required by §22q-430-3(p); the

instrumentation and related requirements of §22a-430-3(q); and the equalization requirements of §22a-430-3(r). Finally, the publication and notice requirements of §22a-430-4(g) have been satisfied by the publication of the notice of tentative determination to renew the NPDES permit and by notice of the scheduling of the hearing in this matter.

d
§§316(a) and 316(b) of the Clean Water Act
1
Section 316(a)

Section 316(a) requires that the thermal component of the discharge from MPS assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in the receiving waters near MPS. In the absence of federal limits, the Connecticut Water Quality Standards (WQS) set limitations on the thermal component of the discharge at MPS. These standards allow for the establishment of a zone of influence when permitting discharges to surface waters for mixing and assimilation of the discharge. The requirements for thermal discharges at MPS comply with the WQS.

The RDP identifies and establishes a maximum area to allow the mixing of the effluent and receiving waters. Consistent with the current NPDES permit, the RDP provides that this thermal zone of influence shall not exceed a radius of 8000 feet from the discharge at the quarry cuts. Water quality criteria shall apply outside this zone for a discharge and there are limitations on allowable temperature increases for the portion of Long Island Sound into which MPS discharges, which is classified as a Class SA water body pursuant to the WQS. The RDP requires that DNC remap the thermal plume and evaluate changes in the outfall structure that may lead to further minimization of the areal extent of the zone of influence.

The factors to be considered in establishing a zone of influence, which are set out in §10 (A) through (E) of the WQS, have been satisfied. Almost thirty years of monitoring data has been collected regarding the thermal impacts from the discharges at MPS, which come almost exclusively from the discharge of once-through cooling waters. These discharges, which flow into the on-site quarry and then into Long Island Sound, are about 2.8 percent of the mean tidal flow through the receiving waters south of Millstone Point. This area is well-suited for heat dissipation and is the primary driver of the thermal plume's dynamic behavior, limiting the plume's impacts on aquatic biota. The thermal plume is active, as it is dispersed and assimilated by the strong currents off Millstone Point. Thermal impacts are limited to a small geographic area and do not threaten species' viability or the ecological integrity of the surrounding waters of Niantic Bay, Jordan Cove or Long Island Sound. The thermal discharge does not impede fish migration; the open water in the discharge location provides for rapid dilution to ambient temperatures and sufficient opportunity for fish to travel around any potential thermal barrier.

The requirements for thermal discharges at MPS are consistent with the WQS. Potential thermal effects associated with the seven percent up-rate will be minor and the RDP imposes a 105 degree F maximum temperature limit on the discharge from the quarry cuts into Long Island Sound. Consistent with the WQS, the RDP also places limits on the increases in the temperature of the receiving waters by the discharge to assure that such increases will not significantly affect the spawning and growth of indigenous organisms.

The RDP includes conditions limiting the delta-T. A higher delta-T for the time when the VFDs are operating is established, however, the temperature of the discharge still cannot exceed 105 degrees. Any effects on flora, fauna and the adjacent rocky shore aquatic community due to the lower velocity of the discharge exiting the quarry will be minimal. Revised delta-Ts from the reduced flows during the winter flounder spawning season will not change the condition of the RDP that limit the temperature increases of the waters of Long Island Sound outside the zone of influence.

The WQS assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving waters near MPS. Because the thermal component is consistent with the WQS, no variance from applicable WQS surface limitations to surface water or any other applicable requirement is necessary; this constancy assures the protection and proliferation of this population as required by §316(a) of the Clean Water Act .

2
Section 316(b)

This section of the Clean Water Act requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available (BTA) for minimizing adverse environmental impact. Following *Riverkeeper II*, the EPA directed that all permits for facilities such as MPS should include conditions under §316(b) developed on a "best professional judgment" (BPJ) basis.

Using BPJ, the DEP made a BTA determination based on the requirements set out in §10 of the RDP, including: the installation and operation of the VFDs to control and limit cooling water intake flow; an enforceable compliance schedule for the installation and operation of those VFDs; the schedule set forth for spring refueling outages and

reduced flow operating conditions; and the obligation of DNC to perform specified studies and evaluations. The RDP also requires DNC to conduct biological studies of the supplying and receiving waters around MPS; and to report to the DEP the results of its evaluation of the value of fine-mesh screens to reduce entrainment of winter flounder larvae. Finally, DNC must conduct a feasibility study to evaluate the BTA that can be implemented for the Unit 2 and Unit 3 cooling water intake structures. This study must include potential technological and operational measures, including, but not limited to, closed-cycle cooling for minimizing environmental impacts.

These and other terms and conditions of the RDP will assure that the cooling water intake structures at MPS will reflect the BTA for minimizing adverse environmental impacts in accordance with §316(b).

e
The Connecticut Coastal Management Act,
CGS §§22a-90 through 22a-112

MPS is located in Waterford, a coastal area as defined in CGS §22a-94 of the Coastal Management Act (CMA).[65] The RDP must therefore be evaluated for consistency with applicable goals and policies of the CMA, including assuring that its use of water resources in this area does not upset the natural environment. CGS §22a-92(1).

The goal of an NPDES permit is to ensure that water quality will not be compromised. If renewed, the NPDES permit will limit the amount of water that can be withdrawn from Niantic Bay to be used for cooling at MPS and will restrict and fix the volume and characteristics of effluent discharges to Long Island Sound. The required

[65] Coastal resources are "the coastal waters of the state, their natural resources, related marine and wildlife habitat and adjacent shorelines, developed and undeveloped, that together form an integrated terrestrial and estuarine ecosystem.…" §22a-93(7).

operation of VFDs will further enhance technologies in place to protect the marine environment in the area. Consistent with the WQS, the RDP provides that the discharges from MPS shall not contain chemical constituents that are harmful to human, animal, or aquatic life, or which make the receiving waters unsafe or unsuitable for fish or shellfish and their propagation or impair their palatability, or impair the waters for other uses. The RDP complies with the provisions of CGS §22a-430 and RCSA §§22a-430-3 and 22a-430-4, which govern the issuance of NPDES permits. This assures the protection of the waters of the state from pollution due to the operations of the MPS.

The discharge also complies with §§316(a) and 316(b) of the Clean Water Act. The thermal plume is dispersed and assimilated by the strong currents off Millstone Point with little apparent effect on the area's ecology. The discharge does not impede fish migration and any thermal impacts are limited to a small geographic area near the immediate vicinity of the discharge and do not threaten species' viability or the ecological integrity of the surrounding waters. The thermal discharge limitations assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in the receiving waters near MPS. The cooling water intake structures will reflect BTA to reduce adverse environmental impacts.

The RDP contains terms and conditions that will assure that the continued operation of MPS under a renewed NPDES permit will not adversely impact Connecticut's coastal resources. The RDP is consistent with applicable goals and policies of the CMA, including assuring that the use of water resources in this area as authorized by the NPDES does not upset the natural environment in this coastal area.

III
CONCLUSION

The preponderance of the substantial evidence established by the consistent testimony of credible expert witnesses and the documents in the record of this proceeding have established: (1) the discharge to be authorized by a renewed NPDES permit will not cause pollution to the waters of the state, CGS §22a-430(b)(B); (2) any systems to treat certain discharges provided for in the RDP will protect the waters of the state from pollution, CGS §22a-430(b)(C); and (3) the procedures and criteria of RCSA §§22a-430-3 and 22a -430-4 have been satisfied. The RDP is also consistent with §§316(a) and 316(b) of the Clean Water Act. The thermal component of the discharge will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in the receiving waters near MPS in compliance with 316(a). The §316(b) conditions in the RDP, developed on a BPJ basis by the DEP, will assure that the cooling water intake structures will reflect the BTA for minimizing adverse environmental impacts. Finally, the substantial evidence demonstrates that this use of water resources is consistent with all applicable goals and policies of the Connecticut Coastal Management Act. CGS §§22a-90 through 22a-112.

IV
RECOMMENDATION

If issued, the September 26, 2008 Revised Draft Permit (RDP) will renew the NPDES permit currently held by MPS, thereby authorizing the continued intake of water from Niantic Bay and the discharge of water into Long Island Sound. This RDP, which is jointly supported by DNC, DEP, CFE and Soundkeeper, complies with all applicable state and federal laws and regulations.

The issuance of the RDP will also complete a process that has already commenced to determine the best technology available for the cooling water intake structures at MPS. This will include a decision as to whether a closed-cycle cooling system is the most effective technology to implement at MPS to minimize adverse environmental impacts associated with the operation of those structures.

The record fully supports the terms and conditions of the RDP and the applicant will be able to comply with its provisions. I recommend that the Commissioner approve the application of DNC and issue this RDP to renew the applicant's NPDES permit.

Janice B. Deshais, Director
Hearing Officer

SERVICE LIST

In the Matter of Millstone Power Station
Application No. 199701876

PARTY	REPRESENTED BY
The Applicant	
Dominion Nuclear Connecticut, Inc. Millstone Power Station Rope Ferry Road Waterford, CT 06385-0128	Elizabeth C. Barton, Esq. Harold M. Blinderman, Esq. Day Pitney LLP CityPlace I Hartford, CT 06103-3499
Department of Environmental Protection	
Bureau of Materials Mgt and Compliance Assistance Charles Nezianya 79 Elm Street Hartford, CT 06106	
Office of the Attorney General 55 Elm Street Hartford, CT 06106	AAG Matthew Levine
Intervening parties	
Nancy Burton/CT Coalition Against Millstone 147 Cross Highway Redding Ridge, CT 06876	Nancy Burton, Director, CCAM
Soundkeeper, Inc. (Terry Backer) P.O. Box 4058 Norwalk, CT 06862	Reed W. Super, Esq. Super Law Group, LLC 156 William Street, Suite 800 New York, New York 10038
Connecticut Fund for the Environment 205 Whitney Avenue New Haven, CT 06511	Roger Reynolds, Esq. Senior Staff Attorney

ATTACHMENT A

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ADJUDICATIONS

IN THE MATTER OF	:	APPLICATION NO.
	:	199701876
MILLSTONE	:	
POWER STATION	:	SEPTEMBER 29, 2008

STIPULATION

This Stipulation is made and entered into by and between Dominion Nuclear Connecticut, Inc. ("Dominion", "DNC" or the "Applicant"), Connecticut Fund for the Environment, Inc. ("CFE"), Soundkeeper, Inc. ("Soundkeeper") and the Connecticut Department of Environmental Protection Water Permitting and Enforcement Division Staff ("DEP Staff") (collectively, the "Parties").

WHEREAS, the State of Connecticut Department of Environmental Protection's Office of Adjudications is conducting an administrative hearing proceeding involving DNC's application for the renewal of its National Pollutant Discharge Elimination System ("NPDES") permit ("Application No. 199701876");

WHEREAS, the Soundkeeper filed a petition to intervene in the above referenced proceeding on March 19, 1999 and revised on May 7, 1999 and was granted status as an intervening party on May 27, 1999.

WHEREAS, CFE (and its permanent program Save the Sound) filed a petition to intervene in the above referenced proceeding on May 1, 2007 and was granted status as intervening party on June 21, 2007;

WHEREAS, on December 13, 2007, the DEP Staff publicly noticed a Second Notice of Tentative Determination proposing to issue a Revised Draft Permit (the "Revised Draft Permit");

WHEREAS, DNC, CFE and Soundkeeper each respectively submitted comments to DEP Staff on January 28, 2008 in response to the Second Notice of Determination and request for public comment;

WHEREAS, on April 10, 2008, CFE requested permission from the Hearing Officer to file a Revised Notice of Intervention and on May 14, 2008, the Hearing Officer ruled on CFE's request;

WHEREAS, the Parties filed memoranda identifying their respective issues concerning the Revised Draft Permit to the DEP Hearing Officer on April 25, 2008;

WHEREAS, on May 14, 2008, the Hearing Officer issued a memorandum outlining issues for adjudication and ruling on certain discovery matters (the "May 14, 2008 Memorandum");

WHEREAS, DEP, CFE and Soundkeeper filed requests for reconsideration of the May 14, 2008 Memorandum on June 6, 2008;

WHEREAS, the Parties filed notices of compliance with certain discovery requests on June 10, 2008;

WHEREAS, DNC filed a memorandum regarding CFE's, Soundkeeper's and DEP Staff's anticipated requests for reconsideration on June 6, 2008 and filed a supplemental response on June 23, 2008;

WHEREAS, the DEP Hearing Officer issued a ruling on the Requests for Reconsideration on September 8, 2008 (the "September 8, 2008 Ruling On Reconsideration");

WHEREAS, a hearing will be held in this proceeding providing the public, including any party to this proceeding, with the opportunity to participate;

WHEREAS, the Parties recognize that this agreement does not constrain the Hearing Officer's Proposed Final Decision or the Commissioner's Final Decision;

WHEREAS, the Parties have resolved their concerns with, and reached agreement on, revisions to the Revised Draft Permit through a Proposed Revised Draft Permit attached hereto (the "Proposed Revised Draft Permit"), and the Parties' participation going forward relating to the permit proceeding; and

WHEREAS, DEP and DNC may submit in the future an Agreed Draft Decision supporting re-issuance of DNC's National Pollutant Discharge Elimination System Permit (NPDES) No. CT 0003263 under the terms and conditions set forth in the Proposed Revised Draft Permit;

NOW THEREFORE, in consideration of the mutual promises herein contained and without admission of fact or law, in order to settle their disputes and expedite the permit proceedings, the undersigned Parties to this proceeding hereby stipulate and agree that adoption by the Hearing Officer and issuance by the Commissioner of the Connecticut Department of Environmental Protection (the "Commissioner") of a National Pollutant Discharge Elimination System ("NPDES") permit in a form not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit resolves all disputes of the Parties as set forth below:

1. The Parties agree to support and recommend jointly that such Proposed Revised Draft Permit be adopted in or with the (i) proposed final decision of the Hearing Officer (the "Proposed Final Decision" or "Proposed Final Permit") and (ii) final decision of the Commissioner (the "Final Decision" or "Final Permit").

2. Provided nothing herein affects CFE's and Soundkeeper's status as party intervenors and provided that the Commissioner adopts and issues a Final Permit in a form not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit, CFE and Soundkeeper agree that the issues subject to adjudication and as otherwise stated in the Intervenors' Notices of Intervention and the Hearing Officer's September 8, 2008 Ruling on Reconsideration have been resolved or otherwise withdrawn by CFE and Soundkeeper with the filing of the Proposed Revised Draft Permit and this Stipulation including:

- Does the 2007 RDP, with a BTA determination that the current location, design, construction and capacity of Units 2 and 3 CWIS at MPS does not represent the BTA for minimizing adverse environmental impacts, comply with §316(b) and relevant state law?

- Does the RDP improperly rely on restoration measures to achieve compliance with §316(b) and relevant state law?

- Will the compliance schedule be protective of the environment (i.e., is compliance required in the shortest possible time? Are there sufficient milestones? Does the schedule ensure that DNC will submit the required information and data?)

- Should the RDP include conditions addressing other species subject to entrainment and impingement and not just winter flounder?

- Are the interim flow reduction measures in the RDP sufficient? (i.e., Will the VFDs provide a 40-50% entrainment reduction? Can/should the VFDs be operational before 2011? Can/should the VFDs be operated beyond just the "interval" to protect winter flounder and any other affected species outside of "peak" spawning season? Are there "loopholes" in the RDP that would permit DNC to avoid compliance with the interim flow reduction measures?)

- Whether, Intervenors have demonstrated that the proposed activities involve conduct which has, or which is reasonably likely to have, the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the state, considering all relevant surrounding circumstances and factors.

3. Provided that the Commissioner adopts and issues a Final Permit in a form not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit,

Dominion agrees that any contrary or conflicting position it has raised with respect to the issues identified below by the Hearing Officer as issues subject to adjudication have been resolved or otherwise withdrawn by DNC with the filing of the Proposed Revised Draft Permit and this Stipulation:

- Does the 2006 BTA determination still comply with §316(b)?
- Is the definition of "calculation baseline" consistent with the definition used by the EPA? If not, does it need to be?
- Should the RDP be revised consistent with the January 28, 2008 technical comments of DNC?

4. DEP Staff and DNC agree to support affirmatively any conclusions with respect to the Proposed Revised Draft Permit's compliance with all applicable federal and state laws, regulation and water quality standards including but not limited to the following conclusions:

- DNC's application and the Proposed Revised Draft Permit comply with the provisions of General Statutes Section 22a-430 and Sections 22a-430-3 and 22a-430-4 of the Regulations of Connecticut State Agencies;
- Discharge of wastewaters in accordance with the Proposed Revised Draft Permit will not cause pollution of the waters of the state;
- The application and the Proposed Revised Draft Permit comply with the provisions of General Statutes Section 22a-92 and its implementing regulations; and
- The application and the Proposed Revised Draft Permit comply with the provisions of Federal Clean Water Act (33 U.S.C. Sections 1251-1387), including Section 316(a) and Section 316(b), and all applicable implementing regulations;

5. DEP Staff support issuance of the Proposed Revised Draft Permit and has determined that compliance with the terms of the Proposed Revised Draft Permit will protect the waters of the state from pollution. DEP Staff and DNC may draft an Agreed Draft Decision consistent with the Proposed Revised Draft Permit for filing with the Hearing Officer;

6. Prior to issuance of the Final Permit, in consideration of CFE's and Soundkeeper's commitments set forth herein, DNC will comply with the submittal deadlines set forth in Sections 10(C)5(a) and (b) and (d), 10(E), 10K(1), 10(L), 10(N), 10(O) and 10Q of the Proposed Revised Draft Permit regardless of when the Final Permit is issued by the Commissioner.

7. CFE and Soundkeeper may or may not opt to sign on to an Agreed Draft Decision if DEP Staff and DNC were to submit one to the Hearing Officer. Whether or not there is an Agreed Draft Decision and whether or not they opt to sign on to any Agreed Draft Decision, CFE and Soundkeeper, while opting to not terminate their intervening party status, agree that they will not be active participants in this proceeding except as provided below:

Provided that the Commissioner adopts and issues a Final Permit in a form not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit, CFE and Soundkeeper further agree that: (i) they will not pursue, directly or indirectly, either the claims they raised in their intervention petitions or the proposed issues they have identified in their filings and comments since the filing of their intervention petitions; (ii) they will not be making, or otherwise commenting on, any filings in the adjudicatory portion of this proceeding, including but not limited to listings of proposed exhibits and witnesses and post hearing submittals, except that, as necessary to confirm their support of the Proposed Revised Draft Permit, counsel to CFE and Soundkeeper may (1)(a) request the opportunity and, assuming same is granted by the Hearing Officer, make an oral statement at the close of the evidence in the adjudicatory portion of the hearing; and (b) file a written post hearing statement, both of these statements being limited to a reaffirmation of their support of the Proposed Revised Draft Permit and, should CFE and Soundkeeper elect, a recital of those benefits of this Stipulation and the Proposed Revised

Draft Permit which provide the basis for their support of the Proposed Revised Draft Permit and/or (2) respond to questions from the Hearing Officer and/or (3) if the Proposed Final Permit is in a form materially or significantly different from or inconsistent with the Proposed Revised Draft Permit, file written exceptions with the Hearing Officer and the Commissioner, such exceptions being limited to those parts of the Proposed Final Permit that are in a form materially or significantly different from or inconsistent with the Proposed Revised Draft Permit and which exceptions will reaffirm their continued support of the Proposed Revised Draft Permit and, should CFE and Soundkeeper elect, include a recital of those benefits of this Stipulation and the Proposed Revised Draft Permit which provide the basis for their support of the Proposed Revised Draft Permit . In no event shall any such statements, responses or exceptions by CFE or Soundkeeper pursuant to (ii) (1), (2) and (3) be inconsistent with or contrary to (i) above, including but not limited to the agreement of CFE and Soundkeeper to not pursue any challenge CFE or Soundkeeper did raise or could have raised as to the legality or adequacy of all or any part of the Revised Draft Permit, the Proposed Revised Draft Permit or the application materials and DEP review relating thereto; (iii) they will not oppose, or bring, join, or otherwise raise challenges to, the issuance of the Proposed Revised Draft Permit or the Final Permit in a form not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit, either during the adjudicatory hearing or prior to, upon, or subsequent to the issuance of the Final Decision and Final Permit by the Commissioner claiming the Proposed Draft Permit or the Final Permit or issuance of same is not in all respects in compliance with the Conn. Gen. Stat. § 22a-430, 22a-92, the Clean Water Act (33 U.S.C. Sections 1251-1387) including 33 U.S.C. Section 1326, Sections 22a-430-3 and 430-4 of the Regulations of Connecticut State Agencies or other applicable state or federal law or regulation; (iv) they will not be filing listings

of proposed exhibits and witnesses, testifying under oath at the public comment portion of the hearing or offering any witnesses or exhibits during the proceeding, except, with respect to the public portion of the hearing, CFE and Soundkeeper may provide oral and/or written comment as speakers, through counsel or other representatives, at the evening hearing for the receipt of public comment. In no event shall such comments by CFE or Soundkeeper at the evening hearing be inconsistent with or contrary to (i) above, including but not limited to the agreement of CFE and Soundkeeper to not pursue any challenge CFE or Soundkeeper did raise or could have raised as to the legality or adequacy of all or any part of the Revised Draft Permit, the Proposed Revised Draft Permit or the application materials and DEP review relating thereto; (v) they will not be examining, cross examining, or otherwise commenting with respect to the testimony of, any witnesses or taking any position on any exhibits offered by any other party to the proceeding; and (vi) CFE and Soundkeeper will not object to or otherwise convey opposition to either DNC and DEP Staff's Agreed Draft Decision, should DNC and DEP Staff elect to file one, or any other post hearing submittals by DNC and DEP Staff, so long as submittals support the Proposed Revised Draft Permit or a Proposed Final Permit or Final Permit not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit. The Parties have made no admission of law or fact.

8. Provided that the Commissioner adopts and issues a Final Permit in a form not materially or significantly different from or inconsistent with the Proposed Revised Draft Permit, DNC agrees not to bring or join in any legal challenge, including taking any position in this proceeding, claiming that either the Proposed Revised Draft Permit or the Final Permit or issuance of same, is not in all respects in compliance with the Conn. Gen. Stat. § 22a-430, 22a-92, the Clean Water Act (33 U.S.C. Sections 1251-1387) including 33 U.S.C. 1326, Sections

22a-430-3 and 430-4 of the Regulations of Connecticut State Agencies or other applicable state or federal law or regulation.

9. DNC, CFE, Soundkeeper and DEP Staff agree that all discovery requests propounded to date between or among them, whether or not fully responded to, are withdrawn and to the extent there has been response to these requests, the Parties jointly seek the Hearing Officer's concurrence that, consistent with the agreement of the Parties and the fact that the requests have been withdrawn, there is no current or continuing obligation to maintain or update those responses.

10. The Parties reserve their respective rights to challenge all or part of any changes to the Proposed Revised Draft Permit or Final Permit to the extent same renders the Final Permit materially or significantly different from or inconsistent with such Proposed Revised Draft Permit. Each Party bears its own burden of proof in demonstrating why and how any Proposed Final Permit or Final Permit issued by the Hearing Officer or the Commissioner, respectively, is materially or significantly different from or inconsistent with such Proposed Revised Draft Permit.

11. Nothing herein shall be construed to affect or constrain the ability of DEP Staff to make a subsequent Best Technology Available Determination consistent with Section 316(b) of the federal Clean Water Act and pursuant to Section 10(R) of the Proposed Revised Draft Permit. Further, nothing herein shall preclude or constrain DNC, CFE and Soundkeeper from fully participating in the subsequent proceeding referred to in Section 10(R).

12. The provisions of this Agreement are severable and independent and if any word, phrase, clause or sentence of it is found to be illegal or unenforceable for any reason, the balance of the Agreement shall remain in full force and effect. This Agreement shall be governed by,

construed, interpreted, performed and enforced under the laws of Connecticut without giving effect to conflicts law principles.

13. Except as otherwise provided in this Agreement, the Parties expressly reserve all remedies available to them at law or in equity to prevent or cure breaches of the provisions of this Agreement and to enforce specifically the terms and provisions hereof.

CONNECTICUT DEPARTMENT OF
ENVIRONMENTAL PROTECTION STAFF

By: _____

Oswald Inglese
Director, Water Permitting and
Enforcement Division
79 Elm Street
Hartford, CT 06106-5127

DOMINION NUCLEAR CONNECTICUT, INC.

By: _____

Elizabeth C. Barton
Harold M. Blinderman
DAY PITNEY LLP
Its Attorneys
242 Trumbull Street
Hartford, CT 06103
(860) 275-0100

CONNECTICUT FUND
FOR THE ENVIRONMENT, INC.

By: _____

Roger Reynolds, Esq.
Senior Staff Attorney
205 Whitney Avenue, 1st Floor
New Haven, CT 06511

SOUNDKEEPER, INC.

By: _____

Reed W. Super, Esq.
Law Office of Reed W. Super
116 John Street, Suite 3100
New York, NY 10038

CERTIFICATE OF SERVICE

I, Matthew Levine, hereby certify that, on this date, the foregoing was hand delivered to the following person at the following address:

Janice B. Deshais, Director
Hearing Officer
Office of Adjudications
Connecticut Department of Environmental Protection
79 Elm Street
Hartford, Connecticut 06106

with a copy sent via e-mail, first class mail postage prepaid and hand delivered to the following persons at the following addresses:

Elizabeth C. Barton, Esq.
Harold M. Blinderman, Esq.
Day Pitney, LLP
242 Trumbull Street
Hartford, CT 06103

Roger Reynolds, Esq.
Connecticut Fund for the Environment
205 Whitney Avenue, 1st Floor
New Haven, CT 06511

Reed W. Super, Esq.
Law Office of Reed W. Super
116 John Street, Suite 3100
New York, NY 10038

Nancy Burton
147 Cross Highway
Redding Ridge, CT 06876

ATTACHMENT B

DRAFT

PROPOSED REVISED DRAFT PERMIT – September 26, 2008

NPDES PERMIT

issued to

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

Location Address:

Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Facility ID: 152-003

Permit ID: CT0003263

Receiving Stream: Long Island Sound Watershed

Permit Expires:

SECTION 1: GENERAL PROVISIONS

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

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

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

Section 22a-430-3 General Conditions

(a) Definitions
(b) General
(c) Inspection and Entry
(d) Effect of a Permit
(e) Duty
(f) Proper Operation and Maintenance
(g) Sludge Disposal
(h) Duty to Mitigate
(i) Facility Modifications; Notification

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

Section 22a-430-4 Procedures and Criteria

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

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

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

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

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

in compliance or prevent or abate pollution.

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

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

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

SECTION 2: DEFINITIONS

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

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

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

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

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

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

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

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

"Calculation Baseline" means an estimate of impingement mortality and entrainment that would occur at your site assuming that: the cooling water system has been designed as a once-through system; the opening of the cooling water intake structure is located at, and the face of the standard 3/8-inch mesh traveling screen is oriented parallel to, the shoreline near the surface of the source waterbody; and the baseline practices, procedures, and structural configuration are those that your facility would maintain in the absence of any structural or operational controls, including flow or

velocity reductions, implemented in whole or in part for the purposes of reducing impingement mortality and entrainment. You may also choose to use the current level of impingement mortality and entrainment as the calculation baseline. The calculation baseline may be estimated using: historical impingement mortality and entrainment data you're your facility or from another facility with comparable design, operational, and environmental conditions; current biological data collected in the waterbody in the vicinity of your facility cooling water intake structure; or current impingement mortality and entrainment data collected at your facility.

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

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

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

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

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

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

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

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

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

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

definition does not include any chemical spills.

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

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

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

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

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

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

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

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

"Moribund" means dying; close to death.

"mg/l" means milligrams per liter.

"mgpd" means million gallons per day.

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

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

"No Observable Acute Effect Level (NOAEL)" means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test conducted pursuant to section 22a-430-3(j)(7)(A)(i) RCSA demonstrating greater than 50% survival of test organisms in 100% (undiluted) effluent and 90% or greater survival of test organisms at the CTC.

"^{o}F" means degrees Fahrenheit.

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

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

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

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

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

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

"ug/l" means micrograms per liter.

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

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner has issued a final determination and found that continuance of the existing systems to treat the discharges would protect the waters of the state and continuance of the existing discharges would not cause pollution of the waters of the state. With the issuance of this final determination by the Commissioner emergency authorization Number EA0100176 has expired, and is no longer of any force or effect. The Commissioner’s decision is based on Application No.199701876 for permit reissuance received on June 13, 1997, transferred on March 30, 2001, and including all addenda, correspondence and submittals by MPS and the administrative record established in the processing of that application. Accordingly, the

Commissioner hereby authorizes the Permittee to discharge wastewaters in accordance with the provisions of this permit. This permit also includes determinations regarding section 316(a) of the federal Water Pollution Control Act 33 U.S.C. § 1326(a), and compliance with this permit is sufficient to assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on the receiving waters. This permit also contains a determination under section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b) and Conn. Gen. Stat. § 22a-430(a). This 316(b) determination is in Section 10(K) of this permit.

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

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

SECTION 4: GENERAL EFFLUENT LIMITATIONS AND REQUIREMENTS

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

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

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

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

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

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

(G) Monitoring and reporting of radioactive liquid releases are performed in accordance with the applicable 10 CFR 50.36A and 10 CFR 20.1301 Appendix B values Table 2 effluent concentrations

"Standards for Protection Against Radiation" and 40 CFR 190. All annual monitoring reports submitted to the Federal Nuclear Regulatory Commission (NRC) shall be sent to Connecticut Department of Environmental Protection, Bureau of Air Management, Radiation Control Division.

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

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

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

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

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

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

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

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

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

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

Table A

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

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

Monitoring Location Description: Quarry Cut Outlets

Discharge is to: Long Island Sound via Quarry Cut

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

Table A Footnotes and Remarks:
Footnotes:

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

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

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

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

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

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

Remarks:

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

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

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

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

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

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

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

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

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

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

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

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

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

TABLE B						**Monitoring Location:** 1			
Discharge Serial Number: 001A									
Wastewater Description: Unit 1 Miscellaneous Decommissioning Wastewaters from Sumps: batch discharge comprised of wastewaters from various Unit 1 sumps including groundwater, roof drains, cooling water (either demineralized plant makeup water or domestic water), system leakage, component makeup water, domestic water, fire suppression system water, sample collection wastewater, wastewater from maintenance activities, incidental leakage during operation and maintenance activities, system drain downs, and the Unit 1 evaporator system storage tanks (including wastewater from DSNs 001B-2, 001B-3, 001C-2, 001C-3 and stack sump water that may be directed to this storage tank as an alternate pathway in accordance with Section 4 (H) above). Unit 1 decommissioning and safe store system waters may be directed to this discharge from the Unit 1 spent fuel pool, Unit 1 spent fuel pool cooling system, and from draining and flushing from decontamination of MP1 plant components. (Discharge Code: 153000N)									
Monitoring Location Description: Immediately following treatment; sample tap off the effluent sample pump. (Discharge Code 117000n)									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Flow, Total	gpd	NA	40,000	Monthly	Daily Flow	NA	NR	NA	
Flow, Maximum [1]	gpd	-----	40,000	Daily	Daily Flow	NA	NR	NA	
Oil & Grease, Total	mg/l	NA	NA	NR	NA	15.0	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	6.0 to 9.0	Weekly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	
Chlorodifluoromethane [4]	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	
Dichlorodifluoromethane [5]	mg/l	NA	NA	NR	NA	------	Weekly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Boron	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Lead	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Nickel	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Total Suspended Solids	mg/l	NA	NA	NR	NA	30.0	Quarterly	Grab	
Zinc, Total	mg/l	NA	NA	NR	NA	1.0	Weekly	Grab	*

Table B Footnotes:

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

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

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

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

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

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

Table C Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

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

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

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

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

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

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

Table D Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

Table E Footnotes and Remarks:

Footnotes:

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

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

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

.

Remarks:

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

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

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

TABLE F	**Monitoring Location:** 1

Discharge Serial Number: 001B-2

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

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

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

Table F Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

Table G Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE H	**Monitoring Location:** 1

Discharge Serial Number: 001B-3

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

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

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

Table H Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

Table I Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

TABLE J	**Monitoring Location:** 1

Discharge Serial Number: 001B-6

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

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

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

Table J Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE K									**Monitoring Location:** 1
Discharge Serial Number: 001B-8									
Wastewater Description: Unit No. 2 Condenser Hotwell Discharge during start-up, shutdown, plant operation, incidental system leakage, and maintenance: Steam Generator(s) system drains during Unit 2 outages, drainage from feedwater and condensate systems, secondary system drainage including wet lay-up and Turbine Building drains during maintenance activities, incidental system leakage and maintenance activities including hydrolazing. DSN 001B-1 and DSN 001B-1(a) may be redirected to this alternative location in accordance with Section 4(H) (Discharge Code 117000N)									
Monitoring Location Description: Sample valves on the discharge piping of the condensers or sample valves on the discharge piping of the condensate pumps.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	250,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table K Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE L						**Monitoring Location:** 1			
Discharge Serial Number: 001B-9									
Wastewater Description: Unit No. 2 Closed Cooling Water System Drainage: Turbine Building, Reactor Building closed cooling water drainage, chilled water system drainage, hydrolazing wastewaters, domestic water, demineralized water, service water and incidental system leakage during startup, plant operation, and maintenance. In accordance with Section 4 (H), DSNs 001B-5, 001B-8 and 001B-11 may be redirected to this alternative location. (Discharge Code 102000N)									
Monitoring Location Description: Sample valves for reactor or Turbine Building sample sink, Turbine Building closed cooling water heat exchangers sample valves; Reactor Building closed cooling water heat exchangers sample valves, chilled water heat exchanger sample valves, or chilled water pump discharge sample valves.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	30,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Chlorodifluoromethane (see remark 1)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Dichlorodifluoromethane (see remark 1)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ethanolamine (see remark 3)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine (see remark 4)	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Molybdenum (see remark 2)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	

Table L Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

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

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

TABLE M						**Monitoring Location:** 1			
Discharge Serial Number: 001B-10									
Wastewater Description: Unit No. 2 - 16 inch standpipe discharge to the circulating water tunnel including Unit No. 2 Feedwater heaters shell & tube side drains, water box priming pumps, groundwater leakage, circulating water leakage, alternative pathway for the redirection of DSN001B-8 (condenser hotwells) DSN 001B-5 and DSN 001B-9 (TBCCW and chill water drainage), auxiliary feed water pump room sump discharge, Unit 2 feed and condensate drains, floor drains, Turbine Building closed cooling water, chilled water, de-icing pit sump, condenser pit sumps, mechanical vacuum pumps, secondary sample sink cooling water, auxiliary steam and condensate recovery, incidental system leakage during startup, shutdown, plant operation and maintenance, seal water and hydrolazing wastewater. DSNs 001B-5, 001B-8, 001B-9 and condenser pit sumps may be redirected to this alternative location only in accordance with Section 4 (H). (Discharge Code 106000N)									
Monitoring Location Description: Dip sample of discharge water from the Turbine Building sump or sample of source water being discharged to standpipe.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	150,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ammonia – Nitrogen	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table M Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE N						**Monitoring Location:** 1			
Discharge Serial Number: 001B-11									
Wastewater Description: Unit No. 2 service water drainage and incidental system leakage from the Reactor Building closed cooling water (RBCCW) system, hydrolazing wastewater, floor drains, auxiliary building sumps, domestic washwater, RBCCW relief valve discharges, during startup, shutdown, plant operation, and maintenance and DSN 001B-9 may be redirected to this alternative location in accordance with Section 4 (H). (Discharge Code 106000N)									
Monitoring Location Description: Auxiliary Building Sump									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	150,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine (see remark 3)	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Ethanolamine (see remark 2)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table N Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

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

TABLE O						**Monitoring Location:** 1			
Discharge Serial Number: 001C									
Wastewater Description: Unit 3 discharge, including DSNs 001C-1 through 001C-9, Non-contact cooling water discharge from Unit 3 circulating water pumps/condenser system, service water, intake pump operation discharges (seal, lube and strainer backwash water) returned to intake bays, and miscellaneous cooling water system leakage and drainage of plant systems and components during plant start up, shut down, plant operation, incidental system leakage and maintenance wastewater, intake desilting wastewater, intake bay maintenance and dewatering activities. (Discharge code 101060Z)									
Monitoring Location Description: Dip sample from the mouth of discharge tunnel 001-C, which feeds into quarry									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	----	1,410,933,000	Continuous//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	1,410,933,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
pH (see remark 1)	S.U.	NA	NA	NR	NA	6.0 – 9.0	Hourly	RDM	
Chlorine, Free Available	mg/l	NA	NA	NR	NA	0.25	Weekly	Grab	*
Hydrazine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	*
Molybdenum	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Temperature, intake/outlet differential (see remarks 2 and 6)	^{o}F	NA	NA	NR	NA	28.0	Hourly	Instantaneous	

Table O Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

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

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

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

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

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

TABLE P						**Monitoring Location:** 1			
Discharge Serial Number: 001C-1									
Wastewater Description: Unit 3 Steam Generator blowdown tanks and blowdown generated during open cycle Steam Generator blowdown during startup, standby, hot standby, operation and shutdown. DSN 001C-1(a) may be redirected to this alternative location per Section 4 (H) of this permit. (Discharge Code101060N)									
Monitoring Location Description: Auxiliary building primary sink sample valve tapped from the Steam Generator blowdown (BD) piping, or secondary sample sink tapped from the BD line in the Unit 3 Turbine Building, or BD sample filters inlet drain valve also in the Unit 3 auxiliary building.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	1,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	1,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
pH	S.U.	NA	NA	NR	NA	------	Weekly	Grab	
Ammonia as Nitrogen	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Ammonia as Nitrogen	kg/day	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrate	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Nitrite	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Total Kjeldahl Nitrogen (TKN)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Oil and Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*

Table P Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

Table Q Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

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

TABLE R						**Monitoring Location:** 1			
Discharge Serial Number: 001C-2									
Wastewater Description: Unit No. 3 Radiation Waste Test Tank Discharge: Waste Test Tanks and Boron Test Tanks including wastewater from areas within the Auxiliary Building, Auxiliary Boiler, Steam Generator blowdown, sludge lancing, wet lay-up, Reactor Building and other radiologically controlled areas and various sumps located within the Unit 3 Turbine Building, Chemistry Laboratory drains, during plant start up, shut down, operation, maintenance and incidental system leakage. In accordance with Section 4 (H) of this permit, DSN 001C-1, 001C-1(a), 001C-3, 001C-9 and the Unit 3 Turbine Building Sump may be redirected to this alternative discharge location. (Discharge Code 153000N)									
Monitoring Location Description: Boron Test Tanks sampled from the primary sample sink or from the Boron Test Tank recirculation pump discharge. Waste Test Tanks sampled from the liquid waste sample sink or from the Waste Test Tank recirculation pump discharge.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or measurement to be reported	
Flow, Maximum [1]	gpd	NA	50,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Dimethyldithiocarbamate (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
Dimethylamine (see remark 2)	mg/l	NA	NA	NR	NA	-----	Monthly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	
pH	S.U.	NA	NA	NR	NA	------	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	

Table R Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

TABLE S	**Monitoring Location:** 1

Discharge Serial Number: 001C-3

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

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

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

Table S Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

TABLE T									**Monitoring Location:** 1
Discharge Serial Number: 001C-4									
Wastewater Description: Unit No. 3 Secondary System Wet Lay up Drainage, condenser cleaning wastewater, hydrolazing, and incidental system leakage, Secondary System Drainage and Auxiliary Boiler Stack Drainage. DSNs 001C-6, 001C-6(b), 001C-9 and Unit 3 Reactor Containment Building Footing Drains may be discharged at this alternative location in accordance with Section 4 (H) of this permit. (Discharge Code 106000N)									
Monitoring Location Description: Sample valve from the make up waste neutralization sump pump common discharge/recirculation pipe in the Unit 3 Turbine Building									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Average and Maximum [1]	gpd	-----	80,000	Daily//Monthly	Daily Flow	NA	NR	NA	
Hydrazine	mg/l	NA	NA	NR	NA	-----	Weekly	Grab	*
pH	S.U.	NA	NA	NR	NA	-----	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	NR	Daily Composite	30.0	Quarterly	Grab	
Ethanolamine	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Boron	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	*
Molybdenum (see remark 1)	mg/l	NA	NA	NR	NA	-----	Quarterly	Grab	
Oil & Grease, Total	mg/l	10.0	15.0	NR	Grab Sample Average	15.0	Quarterly	Grab	

Table T Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE U									**Monitoring Location:** 1
Discharge Serial Number: 001C-5									
Wastewater Description: Unit 3 service water from auxiliary heat exchangers during start up, shut down, operation, incidental system leakage and maintenance, continuous discharge of non-contact cooling water containing residual chlorine, including pump lubrication water, pump seal water, hydrolazing waste water, incidental leakage from heat exchanger tube leaks and cooling water supplied from the Unit 3 circulating water system during service water pump maintenance. Demineralized water used to flush the service water side of the RSS heat exchangers.									
Monitoring Location Description: Sampling valves at the service water discharge of the A, B & C reactor plant closed cooling water heat exchangers.									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	86,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Flow, Total (Day of Sample Collection)	gpd	NA	86,400,000	Weekly//Monthly	Daily Flow	NA	NR	NA	
Chlorine, Free Available (see remarks 1 & 2)	mg/l	NA	NA	NR	NA	0.25	Weekly	See remark below	*

Table U Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

TABLE V	**Monitoring Location:** 1

Discharge Serial Number: 001C-6

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

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

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

Table V Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE W									**Monitoring Location:** 1
Discharge Serial Number: 001C-6(a)									
Wastewater Description: Unit No. 3 Steam Generator Chemical Cleaning and Chemical Decontamination Wastewater (Discharge Code 106000N)									
Monitoring Location Description: DSN 001C-2 or DSN 001C-3 discharge location (See Section 10, Paragraph S of this permit)									
Maximum Frequency of Discharge: Approximately 30 days during an outage									
Expected Frequency: One activity per year									
PARAMETER	**UNITS**	**FLOW/TIME BASED MONITORING**				**INSTANTANEOUS MONITORING**			**Minimum Level Test [3]**
		Average Monthly Limit	Maximum Daily Limit	Sample//Reporting Frequency [2]	Sample Type or Measurement to be reported	Instantaneous limit or required range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be reported	
Flow, Maximum [1]	gpd	NA	60,000	Monthly	Daily Flow	NA	NR	NA	
Boron, Total	mg/l	----	-----	Weekly	Daily Composite	NA	NR	NA	*
Cadmium, Total	mg/l	0.1	0.5	Weekly	Daily Composite	0.75	NR	NA	
Chromium, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	
Copper, Total	mg/l	1.0	1.0	Weekly	Daily Composite	1.5	NR	NA	*
Iron, Total	mg/l	1.0	1.0	Weekly	Daily Composite	1.5	NR	NA	
Hydrazine	mg/l	-----	------	Weekly	Daily Composite	NA	NR	NA	*
Lead, Total	mg/l	0.1	0.5	Weekly	Daily Composite	0.75	NR	NA	*
Nickel, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	*
Zinc, Total	mg/l	1.0	2.0	Weekly	Daily Composite	3.0	NR	NA	*
pH	S.U.	NA	NA	NR	NA	6.0 to 9.0	Weekly	Grab	
Total Suspended Solids	mg/l	20.0	30.0	Weekly	Daily Composite	30.0	NR	NA	
Oil & Grease, Total	mg/l	10.0	15.0	Weekly	Grab Sample Average	15.0	NR	NA	
Molybdenum (see remark 1)	mg/l	-----	-----	Weekly	Daily Composite	NA	NR	NA	

Table W Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE X	**Monitoring Location:** 1

Discharge Serial Number: 001C-6(b)

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

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

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

Table X Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

TABLE Y	**Monitoring Location:** 1

Discharge Serial Number: 001C-8

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

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

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

Table Y Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

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

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

Table Z Footnotes and Remarks:

Footnotes:

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

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

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

Remarks:

1. Sampling for chlorodifluoromethane and dichlorodifluoromethane is required when discharging closed cooling water system drainage.
2. A molybdenum sample shall be collected and analyzed during closed cooling system drainage if molybdenum is being used as a corrosion inhibitor.
3. Ethanolamine sample shall be collected and analyzed if ethanolamine is being used.
4. A hydrazine sample shall be collected and analyzed if hydrazine is being used.

TABLE AA

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

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

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

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

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

Table AA Footnotes:

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

Table AA Remarks:

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

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

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

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

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

Table BB Footnotes:

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

Table BB Remarks:

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

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

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

TABLE CC

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

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

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

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

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

Table CC Footnotes:

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

Table CC Remarks:

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

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

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

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

TABLE DD

Monitoring Location: 1

Discharge Serial Number: 006-1

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

Monitoring Location Description: Sampling manhole approximately 245 feet from outlet

Discharge is to: Long Island Sound via Niantic Bay

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

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

Table DD Footnotes and Remarks:

Footnotes:

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

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

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

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

Remarks:

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

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

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

TABLE EE -T

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

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

Monitoring Location Description: Manhole 245 feet from outlet

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

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

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

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

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

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

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

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

Table HH Footnotes:

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

Table HH Remarks:

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

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

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

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

Physical-chemical measurements of composite effluent sample and control grab test sample	Prior to test initiation the following parameters are measured or aliquots preserved for later measurement with each of three composite sample collections at DSN 001-1 and each grab sample collected from the intake area: salinity, pH, total residual chlorine, ammonia as N, nitrate as N, nitrite as N, total suspended solids, total recoverable and dissolved boron, total recoverable and dissolved copper, total recoverable and dissolved lead, total recoverable and dissolved nickel, total recoverable and dissolved zinc, total recoverable and dissolved molybdenum, total kjeldahl nitrogen, and hydrazine.
Reference toxicant	Sodium dodecyl sulfate with an acute endpoint (48 hours) and chronic endpoint.
Test acceptability criteria:	Acute: 90% survival (averaged) in laboratory controls Chronic: 80% survival (averaged) in laboratory control after 7 days. A minimum average dry weight of 0.2 mg per surviving mysid in controls is required. Fecundity shall be used as an endpoint if 50% or more of the females in the laboratory control produce eggs.

TABLE JJ
Testing protocol DSN 001-1 Sheepshead minnow 48-hour acute and 7-day chronic tests

Testing procedure	Acute: first 48-hours of the chronic test as modified below. Chronic: EPA-821-R-02-014, except as modified below.
Test type	Static with daily renewal
Salinity	Laboratory control water (26 to 32 parts per thousand); Effluent, as is (DSN 001-1), site control water, as is (Niantic Bay)
Temperature	$26^0C \pm 1$
Light	Ambient laboratory illumination
Photoperiod	16-h light, 8-h dark
Test chamber type	Glass or plastic (1 Liter capacity)
Test solution volume	500 - 750 mL per replicate
Test solution renewal	Daily
Age of test organisms	$\leq$24 hours old
No. of test organisms	10 per replicate chamber
Replicates	6 - 100% effluent and 6 – Site control and 6 Laboratory control water
Source of food	Newly hatched (less than 24-hour old) brine shrimp nauplii. Concentrate brine shrimp nauplii with $\leq$ 150 *u*m sieve mesh and rinse with seawater.
Feeding regime	Feed once a day concentrated brine shrimp at a rate per replicate of 0.1 mL (2 drops) on days 0-2 and 0.15 mL (3 drops) on days 3-6. Feed after test solution renewals.
Cleaning test chambers	Siphon excess food prior to test solution renewal.

Aeration	None, unless DO falls below 4.0 mg/l, then gently aerate all chambers.
Control water	Niantic Bay water collected near the intakes of MPS, grab samples, three separate collections: collected on day 0, day 2, and day 4.
Effluent	24 hour composite collected at DSN 001-1 (quarry cut). Collected on day 0, day 2 and day 4.
Test duration	Acute: 48 hours Chronic: 7 days
Endpoint	Acute: Survival. Chronic: Survival and growth
Mortality observations	Each test chamber is examined for mortality at 24 hour intervals. Dead individuals are removed.
Physical-chemical measurements of solutions in test chambers	Temperature, salinity, DO and pH of the effluent and control test solutions are measured at the beginning, at 24 hour intervals and at test termination. These parameters are measured prior to and after test solution renewals.
Physical-chemical measurements of composite effluent sample and control grab test sample	Prior to test initiation the following parameters are measured or aliquots preserved for later measurement with each of three total composite sample collections at DSN 001-1 and each grab sample collected from the intake area: salinity, pH, total residual chlorine, ammonia as N, nitrate as N, nitrite as N, total suspended solids, total recoverable and dissolved boron, total recoverable and dissolved copper, total recoverable and dissolved lead, total recoverable and dissolved nickel, total recoverable and dissolved zinc, total kjeldahl nitrogen, total recoverable and dissolved molybdenum, and hydrazine.
Reference toxicant	Sodium dodecyl sulfate with an acute endpoint (48 hours) and chronic endpoint.
Test acceptability criteria:	Acute: 90% survival (averaged) in laboratory controls Chronic: 80% survival (averaged) in laboratory control after 7 days. A minimum average dry weight of 0.6 mg per surviving organism in laboratory controls (unpreserved).

SECTION 6: SAMPLE COLLECTION, HANDLING AND ANALYTICAL TECHNIQUES

(A) Chemical Analysis

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

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

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

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

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

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

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

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

DSN 001C-8 and DSN 001C-9. The Permittee shall test for hydrazine using UV/VIS spectrophotometric with a minimum detection level of 5.0 ug/l and shall use this test method to determine compliance with the limit for hydrazine at all other discharge locations.

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

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

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

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

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

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

(B) Acute Aquatic Toxicity Test

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

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

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

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

(i) At a minimum, pH, specific conductance, salinity and total residual chlorine

shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of test solution and in the dilution (control) water at the beginning of the test and at test termination. If Total Residual Chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION 7: CHRONIC TOXICITY MONITORING CONDITION

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

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

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

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

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

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

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

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

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

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

SECTION 8: REPORTING REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

test. The Permittee shall also report the results to Aquatic toxicity as specified in Section 8 Paragraph (B) above. Results of all tests, whether valid or invalid, shall be reported.

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

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

SECTION 10: COMPLIANCE SCHEDULE

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

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

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

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

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

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

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

(B) For the duration of this permit, the Permittee shall ensure that all planned spring refueling outages for Unit 2 and Unit 3 at MPS occur between April 4th and May 14th ("the designated period") of the calendar year. Notwithstanding the foregoing, if Force Majeure events as described in Section 10(W) occur, planned spring refueling outages for either Unit 2 or Unit 3 may occur sometime other than the designated period, although the Permittee shall take all reasonable steps to conduct planned spring refueling outages between April 4th and May 14 of the calendar year, even if Force Majeure events occur. If Force Majeure events

occur that will result in the Permittee not being able to conduct planned spring outages within the designated period, the Permittee shall notify the Commissioner in writing pursuant to 10(W), describing fully the event that occurred and explaining in detail the reason for not being able to conduct spring refueling outages during the designated period, including all steps taken to try and conduct planned spring refueling outages within the designated period.

(C) Cooling Water Intake Flow Limits:

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

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

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

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

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

Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined except during the Interval for the calendar years described in this table	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2011 and every three (3) calendar years thereafter (Unit 2 planned spring refueling outage)	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2012 and every three (3) calendar years thereafter (no planned spring refueling outage)	Cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in calendar year 2013 and every three (3) calendar years thereafter (Unit 3 planned spring refueling outage)
2,190.0 mgpd	1,270.2 mgpd†	1,467.3 mgpd†	1,095.0 mgpd*†

Remarks:
"mgpd" means million gallons per day.
"intake flow limit (average)" means taking the average of all of the total daily flows taking into account each day of the Interval.
"intake flow" means the amount of water that may be withdrawn from Niantic Bay for cooling water purposes for the operation of MPS.
"Interval" means from April 4th to May 14th or the first day after May 14th when the intake water temperature reaches 52 degrees F, whichever is later, but in no event later than June 5th.

*If Force Majeure events as described in Section 10(W) interfere with the anticipated Unit 3 refueling outage scheduled for calendar year 2013 and every three (3) calendar years thereafter, the cumulative intake flow limit (average) for Unit 2 and Unit 3 combined during the Interval in such calendar year shall be 1,270.2 mgpd.

†For the period beginning May 14th to June 5th, or until the water temperature as measured at the inlet to the Unit 2 and Unit 3 cooling water intake structures reaches 52 degrees F, whichever is sooner, the average of all of the total daily flows for each day of this period for Unit 2 and Unit 3 combined shall not exceed 1467.3 mgpd.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(F) On or before ninety (90) days after the issuance of this permit, the Permittee shall submit for the Commissioner's review and written approval a scope of study that defines the Permittee's role and commitment for its participation during the tenure of a Nitrogen Work Group established by the Department to review and evaluate nitrogen loading and management in the Niantic River. The scope of study shall also include a substantive plan and schedule of investigations to be conducted by the Permittee or by funding a mutually acceptable outside party, contributory and complementary to studies and monitoring identified by the Work Group, and endorsed by the Work Group, which may include but not be limited to:

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

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

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

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

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

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

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

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

to these activities, and incorporate a summary of those activities, in its comprehensive Annual Ecological Report of environmental studies to the DEP.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(K) Pursuant to Section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b), and Conn. Gen. Stat. § 22a-430(a), the location, design, construction, and capacity of the Unit 2 and Unit 3 cooling water intake structures at the Millstone Power Station ("MPS") shall reflect the Best Technology Available ("BTA") for minimizing adverse environmental impacts. The Commissioner has determined that the current location, design, construction and capacity of the Unit 2 and Unit 3 cooling water intake structures at MPS does not represent the BTA for minimizing adverse environmental impacts. The Commissioner has made a determination that there have been findings that reducing cooling water intake flows through the use of closed cycle recirculation systems reflect the BTA for minimizing adverse environmental impacts. The information provided with the Permittee's application identified reducing cooling water intake flows through the use of closed cycle recirculation systems as the most effective technology to minimize adverse environmental impacts. This identification was based upon the technologies that exist and not on an evaluation of whether any particular technology can be implemented for the Unit 2 and Unit 3 cooling water intake structures at MPS. To determine the BTA that can be implemented for the Unit 2 and Unit 3 cooling water intake structures at MPS, the Permittee shall perform an evaluation in accordance with the following:

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

(i) identifying all measures to be evaluated that are available to minimize adverse environmental impacts from impingement mortality and entrainment for the Unit 2 and Unit 3 cooling water intake structures at MPS, including but not limited to all fine-mesh screen technologies and closed-cycle recirculation systems. The evaluation of closed-cycle recirculation systems shall include but not be limited to closed-cycle recirculation systems that are capable of limiting the maximum cumulative daily intake flow to not

more than 219 million gallons per day, or achieving a ninety percent (90%) or greater reduction in impingement mortality and entrainment from the calculation baseline derived pursuant to Sections 10(O) to 10(R), inclusive, below for Unit 2 and for Unit 3 at MPS;

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

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

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

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

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

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

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

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

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

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

(xii) identifying any conflicts with all plant safety and human health and safety requirements established by the Nuclear Regulatory Commission (NRC) or any other state or federal agency associated with the measures to be evaluated. With respect to any such conflict,

the scope of study shall include a proposal to describe in detail the safety requirement at issue, the legal or other basis for the requirement; and all attempts that have or will be taken to resolve any such conflict;

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

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

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

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

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

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

(N) On or before September 30, 2008, the Permittee shall submit for the Commissioner's review and written approval a comprehensive and thorough scope of study, including a proposed schedule for completion, for performing an Impingement Mortality and Entrainment Characterization Study to provide information to characterize current impingement mortality and entrainment and to support the development of a calculation baseline based on actual operations for evaluating impingement mortality and entrainment associated with the cooling water intake structures in use for Unit 2 and Unit 3 at MPS. In addition, this information shall also be incorporated as a separate part of the scope of study required by Section 10(K). The scope of study

shall include a proposal for providing all of the necessary details to accurately characterize impingement mortality and entrainment associated with MPS operations including but not limited to the following :

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

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

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

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

(5) a sampling plan for a minimum of two (2) years or as otherwise deemed acceptable by the Commissioner of new field studies the Permittee proposes to conduct in order to ensure that the Permittee has sufficient data to develop a scientifically valid estimate of impingement mortality and entrainment. Any proposed sampling plan shall provide for year round sampling including,

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

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

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

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

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

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

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

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

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

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

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

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

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

(v) within nine (9) months of the submittal pursuant to 10(Q)(2) (ii) and (iii) above or upon the submittal of additional information requested by the Commissioner pursuant to 10(Q)(5), whichever is later, a listing of all technological and operational measures for which a detailed and comprehensive evaluation will not be performed pursuant to Section 10(K)(1)(iii) above and the screening process described in the Scope of Study.

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

(4) All progress reports and attachments shall be provided by the Permittee for the sole purpose of informing the Commissioner of the Permittee's progress towards performing the tasks specified by

the Scopes of Study pursuant to Sections 10(K) and 10(N). The review to be conducted by the Commissioner pursuant to Section 10(R) below shall be based solely on the submittals made by the Permittee pursuant to Section 10(L), 10(M), 10(O) and 10(P) above; and

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

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

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

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

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

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

(1) a map of the nearfield area, circumscribed by a radial distance of 2,000 feet extending outward from the location of the Quarry Cut Discharge (DSN001-1) into the receiving water body, at a scale of no greater than 100 feet per inch, delineating eel grass beds, lobster habitat and other

shellfish areas. Such map shall also delineate the location of any watercourses, discharges, intakes, designated tidal wetlands, shellfish beds, and structural features such as bridges and culverts; and

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

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

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

(W) Force Majeure.

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

(2) To the extent not otherwise required by regulation, when circumstances occur that the Permittee believes constitutes a Force Majeure event, the Permittee shall notify the Commissioner orally of the circumstances within three (3) business days after the Permittee first becomes aware of those circumstances. Within seven (7) days after the Permittee first becomes aware of such circumstances, the Permittee shall supply to the Commissioner in writing an explanation of the causes(s) of any actual or expected delay, the anticipated duration of any delay, the measures taken and to be taken by Permittee to prevent or minimize the delay, and the timetable or schedule for implementation of such measures. Failure to comply with the notice provisions of this paragraph may, as determined by the Commissioner given the reason for failing to comply with the notice provision, constitute a waiver of the Permittee's rights to assert a claim of Force Majeure with respect to the circumstances in question. The Commissioner will notify the Permittee in writing of

the length of the extension, if any, for performance of the obligations affected by the Force Majeure event. If the Commissioner determines that a delay is or was caused by a Force Majeure event, the time for performance will be extended by the Commissioner for such time as the Commissioner deems necessary to complete those obligations.

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

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

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

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

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

(AA) Notice to Commissioner of changes. Within fifteen days of the date the Permittee becomes aware of a change in any information submitted to the Commissioner under this section of the permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the Commissioner.

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

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

This permit is hereby issued on _____

Gina McCarthy
Commissioner

DRAFT

DATA TRACKING AND TECHNICAL FACT SHEET

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

PERMIT, ADDRESS, AND FACILITY DATA

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

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

PERMIT INFORMATION

DURATION ***5 YEAR*** _x_ ***10 YEAR*** __ ***30 YEAR***

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

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

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

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

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

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

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

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

OWNERSHIP CODE

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

DEP STAFF ENGINEER: *Charles Nezianya/Jim Grier*

PERMIT FEES

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

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

FOR NPDES DISCHARGES:

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

NATURE OF BUSINESS GENERATING DISCHARGE

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

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

PROCESS AND TREATMENT DESCRIPTION (by DSN)

See detailed NPDES Fact Sheet

RESOURCES USED TO DRAFT PERMIT

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

_x_ ***Performance Standards***

x ***Department File Information***

x ***Connecticut Water Quality Standards***

__ ***Anti-degradation Policy***

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

x ***Other - Explain***

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

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

GENERAL COMMENTS

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

OTHER COMMENTS

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

ATTACHMENT C

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

OFFICE OF ADJUDICATIONS

E-MAIL ATTACHMENT

IN THE MATTER OF : *APPLICATION NO. 199701876*

MILLSTONE POWER STATION : *JULY 2, 2009*

RULING:
PRIMA FACIE CASE OF UNREASONABLE POLLUTION/
ALTERNATIVES ANALYSIS

Procedural History

On December 13, 2007, the Department of Environmental Protection (DEP) issued its tentative determination and intent to renew the National Pollution Discharge Elimination System (NPDES) permit held by Dominion Nuclear Connecticut, Inc. (DNC). Nancy Burton and the Connecticut Coalition Against Millstone (Burton/CCAM) intervened as parties, filing a petition pursuant to the Connecticut Environmental Protection Act (CEPA) alleging that the renewal of the DNC NPDES permit "involves conduct which has, or which is reasonably likely to have, the effect of unreasonably polluting, impairing or destroying the public trust in the air, water or other natural resources of the state" (i.e., "unreasonable pollution"). General Statutes §22a-19(a). They specifically alleged that this "unreasonable pollution" would result from: 1) the entrainment and impingement of marine life and the release of hot water endangering marine life and habitat due to warming; 2) impacts to species other than winter flounder; and 3) interim flow measures and their timing. Their intervention is limited to these factual claims to the extent they are relevant and within the jurisdiction of the DEP. See *Nizzardo v. State Traffic Commission*, 259 Conn. 131, 164-165 (2002).

In addition to Burton/CCAM, the other parties in this matter are the applicant DNC, DEP staff, and intervening parties Connecticut Fund for the Environment (CFE) and Soundkeeper, Inc. (Soundkeeper). On September 29, 2008, a Stipulation by and between DNC, DEP, CFE and Soundkeeper was filed, under which these parties agreed to support and jointly recommend that the September 26, 2008 Revised Draft Permit (RDP) be adopted in or with the proposed and final decisions.

A public hearing was held on December 4, 2008 at the DEP Marine Headquarters in Old Lyme; an adjudicatory hearing continued at the DEP in Hartford for approximately eighteen days from January 6 to February 28, 2009. In a March 3, 2009 *Post-Hearing Directive,*[1] the parties were directed to file briefs to address issues that included the question of whether Burton/CCAM established a prima facie case of "unreasonable pollution." The parties were also advised that if a prima facie case was found, the hearing would be reconvened, but that no further proceedings would be held if no prima facie case had been created. The parties filed their briefs on May 8, 2009.

Prima Facie Case of "Unreasonable Pollution"

Burton/CCAM has the burden to establish a prima facie case of "unreasonable pollution." See *Waterbury v. Washington,* 260 Conn. 506, 550 (2002). A "prima facie" case is one that is sufficient on its face to proceed, as it is supported by at least the required minimum of evidence, which, if credited, is sufficient to establish the fact or facts it is offered to prove. *Thomas v. West Haven,* 249 Conn. 385, 392 (1999); *Berchtold v. Maggi*, 191 Conn. 266, 270 (1983); see also C. Tait & J. LaPlante, Connecticut Evidence (2d ed. 1988) §4.3. p. 72. Under CEPA, where the legislature has created a

statutory and regulatory scheme that governs the proposed conduct, the question of whether it is unreasonable "must be evaluated through the lens of [that] entire statutory scheme...." *Waterbury v. Washington,* supra, 260 Conn. 557. Therefore, I must consider whether there is sufficient evidence in the record that, notwithstanding the application of the statutory and regulatory requirements, the issuance of the RDP would likely result in unreasonable pollution.

General Statutes §22a-430 and its implementing regulations provide that the RDP must "protect the waters of the state from pollution." Connecticut Water Pollution Control Act, General Statutes §22a-416, et. seq. In order to establish a prima facie case of unreasonable pollution based on its intervention petition allegations, Burton/CCAM had to produce evidence to show that the discharge is reasonably likely not to protect the waters of the state due to the entrainment and impingement of marine life, warming from the release of "hot water," or because of interim flow measures and their timing.

Burton/CCAM maintains in its post-hearing brief that the RDP constitutes unreasonable pollution because it authorizes an "illegal" and therefore "unreasonable" discharge of "thermal/toxic/radioactive waste" effluents to the Long Island Sound and "perpetuates entrainment of endangered indigenous fish stocks when the legally-mandated Best Technology Available alternative requires conversion to a closed cooling system which would virtually obviate the entrainment." Even if I could consider those aspects of this claim that are beyond the scope of this decision (see n. 3, below), the Burton/CCAM intervention petition, and DEP jurisdiction, Burton/CCAM did not introduce *any* evidence sufficient to create or support *any* prima facie case of

[1] This Directive noted that a ruling on the issue of the prima facie case would be issued on or before May 15, 2009, however, the extended time for briefs to be filed and my review of the record made this release

unreasonable pollution either through its exhibits, its witnesses, or its cross-examination of the witnesses for the applicant and the DEP.

Burton/CCAM listed 268 proposed exhibits in its October 24, 2008 prehearing information. After "withdrawing" most of these at the November 18, 2008 prehearing conference,[2] Burton/CCAM later sought and was allowed to "reinstate" many of these exhibits, but was directed to clearly identify and describe its exhibits and advised that exhibits concerning irrelevant matters would be excluded if offered.[3] Burton/CCAM filed a revised exhibit list, but did not adequately describe the exhibits or provide any foundational information as previously directed. The revised exhibit list also included many exhibits on issues already ruled irrelevant. In a December 22, 2008 ruling, all but three of the Burton/CCAM proposed exhibits were excluded.[4]

Notwithstanding this ruling, Burton/CCAM tried to introduce many excluded or new exhibits at the hearing during cross-examinations or the presentation of its case. Even when a new exhibit was offered, Burton/CCAM could not show good cause for its failure to previously submit or identify exhibits and they were not admitted. Regs., Conn. State Agencies §22a-3a-6(q)(3). Only one Burton/CCAM exhibit[5] was admitted over objections as to its relevancy and probative value.[6]

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date impracticable.

[2] Burton/CCAM also did not produce exhibits at that conference, despite an October 21, 2008 notice that parties would exchange actual exhibits at the prehearing conference.

[3] Exhibits on the following subjects were not admissible: 1) any issues related to radiation, radioactivity, radioactive pollution or anything related to radiological discharges or alleged radioactive pollution from Millstone or any other nuclear power plant; 2) violations or noncompliance of Millstone's former owner and/or operator; 3) criminal investigations of the US Department of Justice; 4) any whistleblower allegations…; 5) claims/lawsuits filed by commercial fishermen; and 6) allegations that the application is the result of collusion, cronyism or corruption. *Notice Regarding Burton Exhibits*, November 20, 2008.

[4] *Order Regarding Burton/CCAM Exhibits*, December 22, 2008.

[5] An aerial photograph of the Millstone Power Station.

[6] All exhibits offered by Burton/CCAM were marked for identification. However, its post-hearing exhibit list did not accurately reflect the order in which exhibits were marked, did not exclude exhibits that were not offered during the hearing and therefore not marked, and did not accurately or appropriately define

Exhibits – In order to establish a prima facie case, Burton/CCAM had to introduce at least a minimum amount of evidence sufficient on its face to establish the fact or facts it was offered prove in order for the hearing to proceed on its claim of unreasonable pollution. See *Thomas v. West Haven,* supra, 249 Conn. 392. The single Burton/CCAM exhibit that was admitted did not demonstrate that the RDP would result in unreasonable pollution. Without establishing a prima facie case, Burton/CCAM is not entitled to a continuation of the hearing to consider the question of whether the discharge that will be permitted by the RDP would result in unreasonable pollution.

Witnesses -- Burton/CCAM presented only two fact witnesses. Notwithstanding the testimony each presented on matters not relevant to the subject of this hearing, the jurisdiction of the DEP, and the intervention allegations of Burton/CCAM, those witnesses described some of their own experiences and observations and provided their opinions regarding the Millstone Power Plant and its alleged impacts on people and the environment. These fact witnesses could provide information based on their own observations and personal experiences; however, neither was qualified to provide expert testimony as to possible "unreasonable pollution" as a result of the operation of the Millstone Power Plant. Moreover, although evidence provided by non-experts may be reliable and substantial, evidence of general environmental impacts, mere speculation or general concerns do not qualify as substantial evidence. See *River Bend Associates v. Conservation & Inland Wetlands Commission,* 269 Conn. 57, 71 (2004).

No expert witnesses presented testimony or other evidence to support the Burton/CCAM claim of "unreasonable pollution" or to contest the experts for the

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certain documents that were marked for identification. Burton/CCAM did not file a revised list as directed and, per my direction to the parties, was advised that no list would be part of the record.

applicant and the DEP as to the environmental impacts of the operations of the Millstone Power Plant. Therefore, Burton/CCAM provided no witness testimony sufficient to establish any prima facie case of unreasonable pollution.

Cross-examination – Burton/CCAM cross-examined all of the witnesses for the applicant and the DEP, much of it lengthy. The purpose of cross examination is to ascertain the truth, and it provides a means for discrediting the testimony of a witness. *Ferriola v. Burdick*, 146 Conn. 574, 577 (1959). Because the purpose of some cross-examination was arguably to explore witness credibility, Burton/CCAM was permitted to extensively examine some witnesses that had been presented by the applicant and the DEP. See *State v. Saia,* 172 Conn. 37, 49 (1976); *Pet v. Connecticut Dept. of Health Services*, 1992 Conn. Super. LEXIS 2173 (Conn. Super. Ct. July 20, 1992).

The wide-ranging cross-examination of witnesses by Burton/CCAM did not produce any evidence contrary to the direct testimony of those witnesses regarding the environmental impacts of the Millstone Power Plant.[7] None of the information or responses provided by the witnesses examined by Burton/CCAM revealed any new or conflicting evidence that would provide facts necessary to establish a prima facie case of unreasonable pollution by Burton/CCAM.

Alternatives Analysis

If there is sufficient evidence that proposed conduct is reasonably likely to result in unreasonable pollution, a CEPA evaluation requires consideration of possible alternatives to the conduct that are both feasible and prudent, as well as consistent with the requirements of the public health, safety and welfare. §22a-19(b); cf. §22a-17.

[7] In addition, General Statutes §4-178(1) calls for the exclusion of irrelevant, immaterial and unduly repetitious evidence.

Without a prima facie case, however, a hearing process need not be continued to consider the next step; here, whether closed cycle cooling is a feasible and prudent alternative to the discharge to be approved under the RDP. Cf. *Paige v. Town Plan and Zoning Commission*, 235 Conn. 448, 462-463 (1995) (failure to prove unreasonable pollution obviates need to consider and weigh feasible and prudent alternatives to the alleged unreasonable conduct).

Conclusion

After reviewing the evidence in the record, including evidence produced in support of the Stipulation, I find that Burton/CCAM did not adduce sufficient evidence at the hearing to meet its burden to establish a prima facie case of unreasonable pollution. Therefore, as there is no need for me to make further findings of fact, no further proceedings are required. Accordingly, the taking of evidence in this process is concluded, the record is closed, and I will proceed to prepare my proposed final decision.

Janice B. Deshais, Director
Hearing Officer

cc: Elizabeth Barton, Esq.
Harold Blinderman, Esq.
Matthew Levine, Esq.
Nancy Burton
Roger Reynolds, Esq.
Reed Super, Esq.