Case No. 16-2415

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT

In re SIERRA CLUB,

Petitioners.

PETITION FOR WRIT OF MANDAMUS

DECLARATION OF DAVID M. WEBSTER IN SUPPORT OF OPPOSITION TO PETITION FOR A WRIT OF MANDAMUS

The following declaration is submitted in support of the Opposition to Petition for A Writ of Mandamus filed by Respondents United States Environmental Protection Agency ("EPA"), Gina McCarthy, in her official capacity as Administrator, EPA, and H. Curtis Spalding, in his official capacity as Regional Administrator, Region 1, EPA (collectively "EPA").

I, David M. Webster, do hereby declare:

1) I declare that the following statements are true and correct to the best of my knowledge and belief and are based upon my personal knowledge and/or on my review of information contained in EPA records or supplied to me by current EPA employees.

2) I am the Chief of the Water Permits Branch of the Office of Ecosystem Protection within the Region 1 office of EPA ("Region 1" or "the Region"). Region 1 is responsible for, among other things, administering EPA programs in the six New England states and certain other areas under federal jurisdiction (*e.g.*, federal waters off the New England coast). I have worked for EPA for 32 years. Previously, I worked for 4 years as an environmental consultant for HMM Associates in Concord, MA. In my current position, I oversee the Region's National Pollutant Discharge Elimination System ("NPDES") permit program in the six New England states. I have held this post since March 2012. NPDES permits are issued under the federal Clean Water Act. Region 1's NPDES program includes, among other things, issuance of NPDES permits to facilities located in Massachusetts, New Hampshire, federal waters, and Indian lands within Connecticut, Massachusetts, and Rhode Island.

3) Immediately prior to my current post, I served as Chief of Region 1's Industrial NPDES Permits Branch from 2004 to 2012. Before that, I held various other positions at Region 1 including the following: Director of the Office of Ecosystem Protection's Massachusetts State Program Office from 1999 to 2004; Director of the Assistance and Pollution Prevention Office from 1995 to 1999; Chief of the Resource Conservation and Recovery Act Branch from 1994-1995; Chief of the Maine and Vermont Waste Management Branch

from 1991 to 1994; Chief of the Maine, New Hampshire and Vermont Waste Management Section from 1990 to 1991; and Chief of the Maine and Vermont Superfund Section from 1986 to 1990.

I. INTRODUCTION AND SUMMARY

4) It is my understanding that Petitioners have brought this case to accelerate the current pace of Region 1's renewal of NPDES permits for the Schiller Station ("Schiller") and Merrimack Station ("Merrimack") power plants in New Hampshire, and that Petitioners seek a court order requiring the Region to issue these two permits by June 30, 2017. Petition at 28. Schiller and Merrimack are both currently owned and operated by Public Service Company of New Hampshire, dba Eversource ("PSNH" or "the Company").

5) During 2012 and 2013, Sierra Club pursued litigation against EPA seeking a court-ordered schedule for Region 1's issuance of NPDES permits for Schiller and another power plant, Mt. Tom Station in Massachusetts ("Mt. Tom"). In 2012, Sierra Club filed cases in both the United States District Court for the District of Massachusetts, *Sierra Club and Our Children's Earth Foundation v. United States EPA* (D. Mass., Civil Case No. 1:12-cv-10902), and the United States Court of Appeals for the First Circuit. *In re Sierra Club and Our Children's Earth Foundation* (Case No. 12-1860). Both cases were ultimately dismissed by the courts. I filed a declaration in the First Circuit litigation and I attach a copy of that declaration hereto as Exhibit A to this declaration. Ex. A (Declaration

of David M. Webster in Support of Opposition to Petition for A Writ of Mandamus (March 6, 2013) (the "2013 Declaration")).

6) In that declaration, I acknowledged that the Mt. Tom and Schiller permits had been administratively continued for a lengthy period but explained *why* these permits had not yet been reissued, how this was part of a larger, national "backlog" of administratively continued NPDES permits, and what EPA and Region 1 were doing to reduce or eliminate the backlog by prioritizing, developing and reissuing permits. I also explained the uniquely difficult challenges of developing NPDES permits for power plants, while describing Region 1's strong track-record for issuing and reissuing such permits despite these difficulties. In addition, I explained that issuing the Mt. Tom and Schiller permits was a priority for the Water Permits Branch, but that neither permit was our only priority or our highest priority for power plant permits or for all Region 1 NPDES permitting. Indeed, I identified other power plant permits that were higher priorities, including the Merrimack permit. I also provided Region 1's estimated schedule for developing and issuing draft permits and, after notice and comment, final permits for both Mt. Tom and Schiller. At the same time, I explained that maintaining schedule flexibility was essential due to the possibility that competing priorities, resource limitations or other circumstances outside our control could arise and warrant or necessitate reasonable and appropriate schedule adjustments.

7) On May 8, 2013, the Court of Appeals for the First Circuit denied the Sierra Club's petition and dismissed the case. The court stated as follows:

> [t]urning to the merits of this petition, we note that mandamus is a drastic remedy, reserved for "extraordinary situations." *Towns of Wellesley, Concord & Norwood, Mass. v. FERC*, 829 F.2d 275, 277 (1st Cir. 1987) (internal quotations and citations omitted). While the EPA's delays in reissuing the NPDES permits are concerning and extensive, petitioners have not shown that mandamus is warranted under the circumstances presented here. See id. (discussing TRAC factors). The EPA states that it is working on the permits, but the process is complex and it must balance competing priorities with its limited resources, explaining that it has a significant backlog of expired permits in this region, and that it has prioritized permits that have greater environmental impact. Petitioners have not shown why these two particular permits should be moved ahead of the queue by our court. *See, e.g., In re Barr Labs., Inc.*, 930 F.2d 72, 75 (D.C. Cir. 1991) (denying mandamus, even though all other TRAC factors favored it, where "a judicial order putting [petitioner] at the head of the queue [would] simply move[ ] all others back one space and produce[] no net gain").
>
> The EPA estimates that it will issue draft permits to Mt. Tom and Schiller by June 2014 and final permits by June 2016, and petitioners have replied that they are amenable to the EPA's schedule. While petitioners ask us to enforce this timetable, we decline to do so. The EPA recognizes the importance of completing its review and reissuance of these NPDES permits, and the present record provides no reason to think that the EPA will not work diligently to complete its tasks.

Judgment (1st Cir., Case No. 12-1860) (May 8, 2013).

8) As anticipated by the court, and as discussed in this Declaration, since the court's order, EPA has worked diligently on the Mt. Tom and Schiller permits, as well as on many other matters of higher or similar priority, including

the Merrimack permit. As I will detail farther below, of the four actions that we projected completion dates for in my 2013 Declaration, Region 1 has completed three of them and is working toward completing the fourth. Specifically, Region 1 issued new draft permits for both Schiller and Mt. Tom, as well as a new final permit for Mt. Tom. The Region has not yet completed the final permit for Schiller but is working toward such completion and below indicates our revised target date for it.

9) Beyond that, since the court's order, Region 1 has also completed, or made substantial progress, on the other power plant permits that I identified in my 2013 Declaration as higher priorities than the Mt. Tom and Schiller permits. Furthermore, we have also taken major permitting actions that were not anticipated at the time of my prior Declaration, but which became higher priorities thereafter. Below I will discuss some of these other permits, including the Merrimack permit.

10) Having previously sued about Mt. Tom, Petitioners neglect to even mention Region 1's completion of the Mt. Tom permit, and the Petitioners now sue about the Schiller and Merrimack permits. The Merrimack permit was not one of the subjects of the prior litigation. It was, however, one of the permits that I identified in my 2013 Declaration as being a higher priority than both the Mt. Tom and Schiller permits. Since the Court's May 2013 Judgment, EPA has yet to issue a final permit to Merrimack, but, as

discussed below, we have made substantial progress toward a final permit, including taking the major step of issuing a Revised Draft Permit to the facility in April 2014. Furthermore, in the text below, I provide our current estimated target date for issuing a final permit to Merrimack.

11) EPA agrees that the Schiller and Merrimack permits have been administratively continued for a long period and that, based on current facts, reissuing them is a priority. EPA also believes, however, that a court order is neither necessary nor appropriate to govern issuance of these permits. Instead, Region 1 should continue its work to reissue these permits according to its preexisting, reasonably expeditious schedule, while allowing for necessary adjustments if future circumstances emerge that cause revisions to Region 1's priorities or reasonably cause the work to take longer than currently expected.

12) When considering the Mt. Tom, Schiller and Merrimack permits, it is critical to understand that they are only three among numerous expired NPDES permits needing renewal around the Nation and within Region 1. EPA has explicitly recognized this "Permits Backlog" as a significant problem and has been implementing a concerted program to minimize it. Specifically, EPA developed the "Permitting for Environmental Results" action plan in 2003 directed at the effective and efficient management of the NPDES permit program, including backlog reduction, with an increased environmental focus. *See* *https://www.epa.gov/npdes/npdes-program-management-and-oversight#* (last

accessed on December 14, 2016). One result of the PER effort was the establishment of the "priority permits initiative" (See https://www.epa.gov/npdes/npdes-program-management-and-oversight#priority). As a result, permitting agencies, including EPA and the states, are prioritizing backlogged permits based on environmental effects and other considerations and are developing and issuing those permits to address the backlog. Region 1 has followed this approach.

13) Consistent with its prioritization decisions, the Region has completed or begun renewal of many formerly backlogged permits. These have included permits for power plants, other types of industrial facilities, and municipal sewage treatment plants. More specifically, between 2000 and when I submitted my Declaration in March 2013, Region 1 issued new draft permits and new final permits to the following power plants: Newington Energy (July 2000; August 2007; and October 2012); Mystic Station (August 2001); Seabrook Nuclear (February 2002); Brayton Point Station (October 2003 and February 2012); West Springfield Station (November 2004); Kendall Station (September 2006; Revised Permit: December 2008; and Permit Modification: December 2010); Canal Station (August 2008); Northeast Gateway (October 2007); Neptune (August 2008); Wheelabrator Saugus (February 2010); and Russell Biomass (April 2012). *See* Ex. A, ¶¶ 67 – 78. It should be understood that issuance of a number of these permits also required working through lengthy

permit appeal litigation. Within this same time-frame (i.e., 2000 through March 2013), Region 1 also issued new draft permits to General Electric Aviation ("GE Aviation") (March 2011) and Merrimack (September 2011). *Id.*, ¶¶ 75(b) and 76. (Note that some of these are industrial facilities with power plants as part of their operation and that the Northeast Gateway and Neptune facilities are liquefied natural gas import terminals rather than power plants, but are included here because, like power plants, they have cooling water intake structures and thermal discharges and therefore raise many of the same issues as power plants and were assigned to our expert power plant permitting staff. *See Id.*, ¶ 74.)

14) In addition, as discussed in more detail below, since my 2013 Declaration, Region 1 has issued new draft and final permits to Mt. Tom Station (April 2014 and September 2015, respectively) and Northeast Gateway (November 2015 and December 2015, respectively); a new final permit to GE Aviation (September 2014); new final permit modifications to GE Aviation (August 2015 and July 2016) and to Brayton Point Station (September 2014); and new draft permits to Merrimack (Revised Draft Permit, April 2014), Schiller (September 2015) and Pilgrim Nuclear Power Station (May 2016). Beyond these power plant permitting milestones, Region 1 also issued another 91 final individual permits for facilities other than power plants since my 2013 Declaration, despite the fact that our permitting pace has been slowed by

numerous permit appeals that have been filed in recent years. These appeals include, but are not limited to, *City of Taunton, Massachusetts v. US EPA* (1st Circuit docketed Oct. 19, 2016), *In re City of Taunton, Department of Public Works,* 17 EAD __ (EAB, NPDES Appeal No. 15-08, May 3, 2016) (Order Denying Review); *In re Sterling Suffolk Racecourse LLC* (EAB, NPDES Appeal No. 15-12) (July 22, 2016, Order Dismissing Petition for Review); *In re Invensys Systems, Inc.* (EAB, NPDES Appeal No. 15-10) (April 21, 2016, Order Dismissing Petition for Review); *In re General Electric Aviation* (EAB, NPDES Appeal No. 14-03) (Sept. 29, 2015, Order Dismissing Petition for Review); *In re Charles River Pollution Control Dist.*, 16 EAD ___ (EAB, NPDES Appeal No. 14-01) (Feb. 4, 2015, Order Denying Review); *In re Town of Concord*, NPDES Appeal No. 13-08 (EAB Aug. 28, 2014); *In re Town of Newmarket*, 16 EAD ___ (EAB, NPDES Appeal No. 12-05) (Dec. 2, 2013, Order Denying Review); *In re Upper Blackstone Water Pollution Abatement Dist.*, NPDES Appeal Nos. 10-09 through 10-12 (EAB Mar. 31, 2011), *aff'd*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (May 13, 2013).

15) Accelerating issuance of new final permits for Merrimack and Schiller is not as simple as just assigning all available staff to work on them until completion. That approach would inevitably delay work on other projects that EPA deems of equal or higher priority. These other projects include not just certain power plant permits, as will be discussed below, but also permits

for particular publicly owned sewage treatment plants and industrial facilities, as well as other types of projects across Region 1's water programs (not to mention, our air and hazardous waste programs). Shifting Region 1's limited resources to Sierra Club's preferred activities would jeopardize completion of other important matters. Moreover, working on NPDES permits for power plants requires specialized expertise that not all EPA staff possess. This is not to say that the Schiller and Merrimack permits are not important; they *are* important. They are only two, however, of the many important projects Region 1 is working on.

16) It is also critical to understand that NPDES permits for steam-electric power plants, such as Mt. Tom, Schiller and Merrimack, are among the most complex permits issued under the Clean Water Act, 33 U.S.C. §§ 1251, *et seq.* ("CWA"). A timetable for the Schiller and Merrimack permits has to allow sufficient time for Region 1 to (a) complete the necessary scientific, technical and legal work to develop the permits, (b) carry out the required public notice-and-comment process for the permits, including thoroughly considering and responding to the diversity of significant comments submitted by the public (including, but not limited to, Sierra Club), and (d) complete the several inter-agency consultations required by federal law and obtain any necessary regulatory approvals from other agencies.

17) Despite the difficulties of issuing permits to power plants, Region 1 has issued many such permits in the course of addressing its permits backlog. Based on this experience, and assuming that currently available resources do not need to be diverted to currently unanticipated competing priorities, Region 1 is now planning to issue the final Schiller and Merrimack permits by no later than December 31, 2017. I believe that this time is necessary given the current status of the process for both permits, the various considerations and uncertainties described below, and the need to produce technically sound, high quality permits for these facilities, while meeting all requirements of the NPDES permit issuance process.

18) With regard to Region 1's current timetable, however, there are a number of contingencies that, if they occur, could necessitate schedule adjustments. These contingencies include (a) that resources do not need to be diverted to as-yet-unanticipated projects or assignments of greater priority, (b) that current levels of resources needed to complete this work are not significantly reduced, (c) that regulatory consultations and approvals from other agencies are completed in a timely way, and (d) that responding to public comments and/or changes in applicable law and regulations do not require new rounds of notice-and-comment for the permits. This latter point bears emphasis here because PSNH has sent Region 1 a December 22, 2016, letter requesting that the Region issue a new Revised Draft NPDES permit for

Merrimack to provide for another round of notice and comment. A copy of this letter is attached hereto as Exhibit B. PSNH argues that a new Revised Draft Permit is necessary due to what it argues are significant new regulatory and technical developments affecting the permit. PSNH's letter raises a number of complicated issues. Region 1 is currently considering PNSH's request but has not yet decided how to respond to it. If the Region decides that a new Revised Draft Permit and associated public comment period is necessary, then our projected schedule for the final Merrimack permit would likely need to be pushed back.

II. THE NPDES PERMIT PROGRAM

a. The NPDES Permit Process

19) The CWA is the primary federal statute focused on protecting the Nation's surface waters from pollution. The NPDES permit program created under CWA § 402, 33 U.S.C. § 1342, is a centerpiece of this effort. Unless authorized by an NPDES permit, point source discharges of pollutants to the surface waters of the United States are generally prohibited by CWA § 301(a). 33 U.S.C. § 1311(a). The CWA's requirements for limiting pollution are put into effect on a facility-specific basis by incorporating appropriate discharge limits and other requirements into an NPDES permit issued to the facility.

20) NPDES permits are issued by one of EPA's ten regional offices or, more commonly, by states that EPA has authorized to administer the

NPDES program. *See* 33 C.F.R. § 1342(b); 40 C.F.R. Part 123. When a state obtains such authority, EPA oversees and assists with the state's program. At present, 46 states are authorized to administer the NPDES program in whole or in part. These states include Connecticut, Maine, Rhode Island and Vermont. Region 1 oversees the state NPDES programs in these four authorized states. Neither Massachusetts nor New Hampshire has been authorized to administer the NPDES program, however, and Region 1 issues the NPDES permits in both states. In addition, Region 1 is currently responsible for issuing NPDES permits under CWA § 316(b), 33 U.S.C. § 1326(b), for facilities in Maine with cooling water intake structures, a common feature of power plants. Cooling water intake structures and CWA § 316(b) are discussed in more detail farther below. NPDES permits must be issued to new facilities and periodically reissued to existing facilities for their continued operations.

21) The NPDES permit development process begins when an application is submitted by a current or proposed future discharger. An application must satisfy certain formal requirements and once it is complete, Region 1's practice is to send the applicant an "application complete" letter. Depending on the issues presented by the permit, however, the permitting authority may need additional information to develop the permit. Staff may gather such information themselves or request it from the applicant, including

by making formal requests for information pursuant to CWA § 308(a), 33 U.S.C. § 1318(a). *See also* 40 C.F.R. §§ 124.3(c) and 122.21(g)(13).

22) The permitting authority then develops a "draft permit" and makes it available for public review and comment together with a "fact sheet" explaining the technical and legal basis for the permit conditions. *See* 40 C.F.R. §§ 124.6, 124.7, 124.8 and 124.10(a) and (b). A fact sheet may be tens of pages or hundreds of pages (including appendices), depending on the complexity of the issues to be addressed. Draft permits and fact sheets issued by EPA are based upon an administrative record. 40 C.F.R. § 124.9.

23) A variety of methods are used to inform the public of the availability of the draft permit for review and comment, including direct mailings, e-mails, the Region 1 NPDES web page, and publication of a formal notice in a local newspaper for major permits. 40 C.F.R. § 124.10(c). By EPA regulation, a minimum of 30 days are provided for public comment, but a comment period may be extended if the issues presented reasonably require additional time for public review and comment. 40 C.F.R. §§ 124.10(b) and 124.13. This is frequently the case for power plant permits. In some cases, a two-tiered comment period may be provided so that during the second phase, interested parties may comment on comments provided by other parties during the first phase. *See* 40 C.F.R. § 124.14(a). In addition, depending on the level of public interest in the permit and whether requests for a public hearing are

made, EPA may need to hold a public hearing to receive oral comments on the draft permit. 40 C.F.R. §§ 124.11, 124.12. If a hearing is scheduled, a suitable location for it must be found and 30 days advanced notice provided. 40 C.F.R. § 124.10(b)(2). Finally, in some cases, a draft permit may need to be *re-noticed* for additional public review and comment. *See* 40 C.F.R. § 124.14(b) and (c). This might be necessary, for example, if major changes are made to a draft permit that are not a logical outgrowth of the conditions in the original draft permit or the options and issues discussed in the draft permit's fact sheet.

24) Once the public comment period closes, the permitting authority must consider all the comments received during the comment period, 40 C.F.R. § 124.11, write responses to all "significant comments," and develop and issue the final permit. 40 C.F.R. § 124.17(a). An EPA final permit action is also based on an administrative record. 40 C.F.R. § 124.18. Neither the statute nor regulations specify how quickly a final permit and responses to comments must be developed and issued. The time needed to consider and respond to the comments received varies from permit to permit and depends on the volume and nature of those comments as well as the resources available to apply to the effort. For some draft permits, EPA receives few comments and developing the final permit may be a relatively simple exercise. For other draft permits, however, EPA receives hundreds or even thousands of pages of comments. These comments may come from numerous reviewers, often with contrasting

and conflicting viewpoints about the permit and its supporting analyses, and the comments may include complex scientific, technical and legal analyses that can only be adequately evaluated and responded to after substantial analysis, problem solving, and decision making.

25) Thus, the time needed to develop and issue a draft permit, to collect, consider and respond to public comments, and then to develop and issue the final permit, necessarily varies from case to case. It is not possible to predict with certainty exactly how much time will be needed for these steps for each permit. That said, I believe that with knowledge of the issues raised by a particular permit, knowledge about the expertise of the permit team, knowledge about competing work priorities, and knowledge about the availability of technical and legal resources, one can reasonably estimate a permitting schedule, while recognizing that adjustments may be needed as the work proceeds and events unfold.

26) For EPA-issued individual NPDES permits, once a final permit is issued, any person who commented on the draft permit may appeal all or part of the permit by filing a petition for review with EPA's Environmental Appeals Board ("EAB"). 40 C.F.R. § 124.19(a). If the EAB finds a substantive or procedural flaw in the permit that requires correction, it will remand the permit to the responsible EPA office to address the problems and reissue the permit. While under appeal to the EAB, the permit conditions being challenged are

stayed. For an existing permit, while the new conditions are stayed, the corresponding conditions in the existing permit remain in effect. 40 C.F.R. § 124.16. If the EAB ultimately upholds the permit, an aggrieved party may then appeal the final permit to the appropriate Circuit Court of Appeals under CWA § 509(b)(1)(F), 33 U.S.C. § 1369(b)(1)(F). *See also* 40 C.F.R. §§ 124.19(e) and (f).

b. *Substantive Standards Applicable to NPDES Permits*

27) NPDES permit limits must, at a minimum, satisfy federal technology-based requirements. *See* 33 U.S.C. §§ 1311(b), 1314(b) and 1316. Technology-based limits are set based on the degree of pollution control achievable by using certain levels of treatment technology. The CWA specifies several different narrative technology standards that apply to different types of pollutants as of particular dates (*e.g.*, the "best available treatment economically achievable" was to be satisfied by March 31, 1989). S*ee* 33 U.S.C. §§ 1311(b)(2)(A) – (D), and (F). *See also* 40 C.F.R. § 125.3(a)(2)(iii) and (v). The statute also specifies particular factors that must be considered when determining requirements under the different technology standards (*e.g.*, cost, engineering considerations, non-water quality environmental effects). *See* 33 U.S.C. § 1314(b)(2)(B). *See also* 40 C.F.R. § 125.3(d).

28) At the national level, EPA applies technology standards to industrial categories when it develops national effluent limitation guideline regulations ("Effluent Limitation Guidelines"). *See* 33 U.S.C. § 1314(b). Where

Effluent Limitation Guidelines applicable to a particular type of facility and pollutant have been developed, technology-based permit limits for such facilities are based on the Effluent Limitation Guidelines. 33 U.S.C. § 1342(a)(1)(A); 40 C.F.R. § 125.3(c)(1). Under these circumstances, developing appropriate technology-based limits for specific pollutants may be relatively straightforward.

29) In the absence of applicable Effluent Limitation Guidelines, however, the permitting office develops technology-based limits by applying the statutory technology standard on a case-by-case, "Best Professional Judgment" ("Best Professional Judgment") basis to the facility at hand (such as for waste heat discharges from a once-through cooling system). *See* 33 U.S.C. § 1342(a)(1)(B); 40 C.F.R. §§ 125.3(a)(2)(iii)(B) and (c)(2) and (3). The permitting process is far more difficult and complicated when Best Professional Judgment limits must be developed and a written explanation of their basis provided.

30) Facilities with cooling water intake structures are subject to requirements for the intake under CWA § 316(b). 33 U.S.C. § 1326(b). CWA §316(b) provides as follows:

> [a]ny standard established pursuant to … [CWA §§ 301 or 306] and applicable to a point source shall require that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

Id. Approximately 14 months after the court's May 2013 Judgment in Sierra Club's prior case, EPA promulgated new national regulations implementing CWA § 316(b) for existing facilities. 79 Fed. Reg. 48300 (Final Rule) (Aug. 15, 2014) (the "2014 CWA § 316(b) Regulations"). (In my 2013 Declaration, I explained that these new regulations were then under development. *See* Ex. A, ¶ 56 (citing 76 Fed. Reg. 22174-22288 (April 20, 2011) (Proposed Rule).) The 2014 CWA § 316(b) Regulations are in effect but are currently being challenged in the United States Court of Appeals for the Second Circuit. *Cooling Water Intake Structure Coalition v. EPA*, Case No. 14-4645 (2d Cir.). Consequently, as detailed below, permits under development pursuant to the previously applicable requirements under CWA § 316(b) had to be reviewed and, as necessary, revised to conform to the new regulations. EPA expects these regulations to be upheld, but if any of those new regulations are revoked on appeal, permits may need to be re-reviewed and revised once more. These requirements are discussed in more detail farther below.

31) Permits must also include any more stringent requirements needed to satisfy state water quality standards. *See* 33 U.S.C. §§ 1311(b)(1)(C) and 1313(a). State water quality standards identify designated uses for the state's water bodies and water quality sufficient to support these uses must be maintained. These standards also set numeric and narrative water quality criteria that must be satisfied by the state's water bodies. *See* 40 C.F.R. § 131.6.

Water quality-based permit limits are determined, in essence, by back-calculating from the applicable water quality standards to determine permit requirements needed to meet the standards. Water quality-based requirements may need to be applied to discharges of pollutants as well as to water withdrawals through cooling water intake structures. *See* 40 C.F.R. §§ 122.44(d) and 125.94(i).

32) Before EPA can issue an NPDES permit, it must obtain a "water quality certification" from the relevant state under CWA § 401(a)(1), 33 U.S.C. § 1341(a)(1). Unless the state certifies that the permit will satisfy applicable state water quality standards, or the certification is deemed to be waived, EPA may not issue the permit. If the state certifies the permit with conditions pursuant to CWA § 401(d), 33 U.S.C. § 1341(d), then EPA must include those conditions in the permit. Under CWA § 401(a)(2), 33 U.S.C. § 1341(a)(2), EPA also must consult with any "downstream state" whose water quality may be affected by a permitted discharge. Given the states' interest in the condition of their waters, and because of the need to ensure compliance with state water quality standards and obtain state water quality certifications, when EPA is the NPDES permit issuing authority, it must coordinate closely with the relevant state or states whose waters may be affected by a discharge or water withdrawal. This federal-state coordination takes time.

33) NPDES permit writers must also determine appropriate monitoring parameters and frequencies, sampling locations and sampling methods, based on factors such as past monitoring results, advancements in techniques for obtaining representative samples, effective techniques for detecting non-compliance, and the burden to the permittee. *See* 33 U.S.C. §§ 1318(a) and 1342(a)(2); 40 C.F.R. § 122.48.

34) Furthermore, a number of overarching federal law requirements may apply to EPA permit actions. For example, before issuing an NPDES permit for facilities located within the "coastal zone," EPA must obtain a state consistency certification under the Coastal Zone Management Act. 16 U.S.C. § 1456(c). In addition, EPA potentially must consult with the U.S. Fish & Wildlife Service and/or the National Oceanic and Atmospheric Administration ("NOAA") under the Endangered Species Act, 16 U.S.C. § 1536, and with NOAA under the Magnuson-Stevens Fishery Conservation and Management Act. 16 U.S.C. § 1855(b). Additional consultations may also be necessary under other statutes, such as the National Historic Preservation Act. *See, e.g.,* 40 C.F.R. § 122.49. These requirements all contribute to make the permit process more complex and time-consuming.

III. THE NPDES PERMITS UNIVERSE

35) Industrial dischargers, municipal dischargers, and certain stormwater discharges make up three primary categories of NPDES permittees.

See, e.g., "NPDES Water Permit Program in New England," *https://www3.epa.gov/region1/npdes/index.html* (EPA Region 1 Webpage, last accessed on December 14, 2016). *Individual* NPDES permits are prepared for specific facilities, while *general* permits are typically used to efficiently address a group of similar, smaller dischargers with a single set of permit requirements (*e.g.*, small publicly operated treatment plants, non-contact cooling water dischargers). *See* 40 C.F.R. § 122.28.

36) Another important distinction is between permits for *new* facilities and *existing* facilities. A facility cannot discharge pollutants unless and until authorized to do so by an NPDES permit. As a result, a new facility may be unable to commence operations until it receives its final permit. For an existing facility that already has a permit, renewal of that permit ensures that discharge limits are kept up-to-date in light of any improvements in pollution control technology and any changes in environmental conditions and/or legal requirements.

37) As of September 2016, Region 1 is responsible for 723 non-stormwater NPDES permittees in Massachusetts and New Hampshire.[1] *See* https://www.epa.gov/npdes/npdes-permit-status-reports. Of these 723 permittees, 167 operate "major" facilities with individual permits, 151 operate

[1] There are also about 870 stormwater permittees within these two states.

"minor" facilities with individual permits, and 405 operate facilities covered by non-stormwater general permits. In general, EPA classifies permits for larger volume dischargers (*e.g.*, more than one million gallons per day ("MGD") of wastewater) or otherwise potentially more environmentally significant dischargers as "major permits," while permits for smaller (*e.g.*, less than one MGD) dischargers with less potential for being environmentally significant are classified as "minor permits." *See* 40 C.F.R. § 122.2 (definition of "Major facility").

38) Region 1 is the only EPA Region responsible for issuing NPDES permits in more than one state and is responsible for more major NPDES permits and more total individual permits (*i.e.*, major and minor permits combined) than any other EPA Regional office. Region 1 also issues eight NPDES general permits in Massachusetts and New Hampshire, and two large individual municipal stormwater NPDES permits in Massachusetts. In addition, the Region oversees the state NPDES programs in Connecticut, Maine, Rhode Island and Vermont.

IV. THE NPDES PERMITS BACKLOG

39) Under CWA § 402(b)(1)(B), 33 U.S.C. §1342(b)(1)(B), NPDES permits can be issued for a term of up to five years. Therefore, within no more than five years of issuance, NPDES permits expire and permit renewal (or "reissuance") is necessary. During permit renewal proceedings, the permit's

requirements are re-evaluated. In practice, it has not been possible for EPA Regions or states to reissue all permits immediately upon the end of the prior permit's five-year term. Accordingly, EPA regulations provide for the "administrative continuance" of an EPA-issued existing permit if the permittee filed a timely application for renewal and the permitting office "through no fault of the permittee does not issue a new permit with an effective date … on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints)." 40 C.F.R. § 122.6(a). The regulations indicate that administrative continuance occurs automatically under these circumstances under 5 U.S.C. § 558(c).

40) The difficulty of reissuing NPDES permits on an every-five-year basis has been a longstanding challenge, and it has become even more difficult as the complexity of permits, regulations, and Best Professional Judgment-based permit limit determinations have increased. EPA has for a number of years been implementing a program, in coordination with the states, to address the problem of "backlogged" permits. Permits that have been administratively continued for more than 180 days after their expiration dates are classified as "backlogged" by EPA. For many years, EPA has focused attention on reducing the NPDES permits backlog and re-issuing priority permits. On its website, EPA has a web page addressing its program for reducing the NPDES Permits

Backlog. https://www.epa.gov/npdes/npdes-program-management-and-oversight#backlog (last accessed on December 14, 2016).

41) As mentioned above, in 2003, EPA began an initiative, known as Permitting for Environmental Results, which resulted in several ongoing program integrity activities, including the "priority permitting initiative," that focuses permitting efforts on the most environmentally and programmatically significant permits within the backlog. *See* https://www.epa.gov/npdes/npdes-program-management-and-oversight#priority (last accessed on December 14, 2016). Thus, a facility that discharges to an impaired water, or that affects a relatively more significant or sensitive resource, might be regarded to be more environmentally significant, while an older backlogged permit, for example, might be regarded to have greater programmatic significance than a more recently backlogged one. At the same time, no permits can be ignored; all require periodic updating and have some level of environmental significance.

42) The number of backlogged permits changes as various permits expire and others are renewed. As of September 30, 2016 (our latest report), 167 out of 321 (47%) of individual permits (major and minor) issued by Region 1 to Massachusetts and New Hampshire facilities were current. The NPDES Permits backlog poses a significant challenge for Region 1 and we have a great deal of work to do. At the same time, we are proud of our efforts and successes. We have addressed, or are addressing, many complex and

challenging industrial, municipal, and stormwater permits. Some of these permits are discussed in more detail below. By issuing these permits, we believe that we have achieved significant environmental results despite working in an era of shrinking or static resources, and we know we must continue to do more with less.

V. POWER PLANT PERMITS ARE UNIQUELY DIFFICULT

43) One important group of major, individual industrial NPDES permits are those issued to power plants. Region 1 writes the permits for 16 power plants in Massachusetts and New Hampshire, and assists the other New England states with their power plant permitting. In my experience, there have been no more complicated and difficult industrial permits than those for power plants. Most difficult of all have been the permit renewals for *existing* power plants.

44) There are many reasons for the difficulty of these permits. To begin with, power plant permits routinely present a large number of complex scientific, technical and legal issues. The scientific and technical issues involve subjects such as aquatic biology, fish population dynamics, hydrodynamic thermal modeling, power plant engineering and construction, wastewater treatment technology and engineering, financial analysis (including assessing the electricity rate effects of adding new technology at a power plant), and natural

resource economics. Staff working on these permits must have (or develop) specialized expertise to address these issues. Region 1 has developed a team of technical, scientific and legal experts with the specific experience and expertise to develop high quality power plant permits and they are working in a prioritized manner to develop all of these permits as efficiently and expeditiously as possible. At times, Region 1 has also enlisted specialized contractor expertise to help with certain aspects of this work, but the Region's resources for retaining such contractors are extremely limited.

45) Power plant permits are also subject to a particularly complicated legal regime that has been subject to significant uncertainty and a number of shifts arising from the promulgation of new regulations.

46) Another difficulty is presented by the fact that power plant permits often generate intense public interest, and not only from the owners of the facility being permitted. Depending on the permit, there may be a great deal at stake environmentally and financially. As a result, draft permits for power plants often prompt voluminous technical and legal comments which permitting authorities must consider and respond to as part of developing the final permits. In various permit proceedings, such comments have been submitted by the permittees and their hired consultants and attorneys as well as by electric industry trade associations, other power companies with an interest in the issues, environmental organizations and other groups and individuals.

Moreover, these different commenters often present sharply conflicting viewpoints.

47) Once a final permit is issued to a power plant, Region 1's experience has been that the permit often gets appealed by the permittee and/or interested environmental groups. Resolution of a permit appeal can take years. Moreover, responding to an appeal requires a substantial commitment of time and effort by the same legal and technical team that was assigned to develop the permit. This extends the time for completing the permit and interferes with the team's work on other permits.

48) Like other types of NPDES permits, permits for power plants must address a variety of pollutant discharges. This is relatively straightforward when there are established National Effluent Limitation Guidelines ("Effluent Limitation Guidelines") that apply to the pollutants in question, such as there are for power plant discharges of chlorine in cooling water, and copper and iron in chemical metal cleaning wastes. *See* 40 C.F.R. §§ 423.13(b) and (e). Setting permit limits can be far more complicated, however, for pollutants for which no ELG applies and for which technology-based limits have to be developed on a case-by-case, Best Professional Judgment basis. For example, this has been the case when setting technology-based limits for power plant discharges of thermal wastewater.

49) In my experience, the biggest difficulties typically posed by power plant permits are addressing both the water withdrawals and the discharges of waste heat from the "open-cycle" or "once-through" cooling systems used by many older, existing power plants.

50) Steam-electric power plants, like Schiller and Merrimack, use the "steam cycle" as part of their process for generating electricity. Such facilities burn fuel to boil water in a boiler and generate steam for driving turbines attached to electrical generators. These facilities must then convert this steam back to water (*i.e.*, condense it) so that it can be put through the steam cycle again to generate more electricity.

51) A facility with an "open-cycle" cooling system takes water from a nearby water body through a cooling water intake structure and uses that cooler water to condense the steam. The water used to condense the steam is called "cooling water" and it absorbs the facility's waste heat. This raises the cooling water's temperature well above ambient water temperatures. The open-cycle cooling system then discharges the cooling water, along with the facility's waste heat, back to the water body.

52) An open-cycle system's withdrawal of water from a water body for cooling, and its discharges of waste heat to the water body, may adversely affect the water body in several ways. Withdrawals of water may

kill or injure aquatic organisms residing in the water as a result of "entrainment" and "impingement." *Entrainment* occurs when very small organisms in the water, such as fish eggs and larvae, are pulled with the water through the cooling water intake structure screens and into the cooling system. The organisms may then be killed or injured by physical impacts, high water temperatures, pressure changes and (in some cases) exposure to harmful chemicals, such as chlorine. The environmental significance of entrainment effects will depend on many factors, including the volume of water being withdrawn and the quantity and character of the organisms being entrained. *Impingement* occurs when larger aquatic organisms, such as juvenile and adult fish, shellfish, seals, and/or sea turtles, are caught and held against intake screens. Fish and/or other organisms may be injured or killed as a result of impingement, though a well-designed fish return system may return impinged organisms safely to the water. The environmental significance of any impingement will also depend on many factors, including the number and character of organisms being impinged and whether these organisms can survive the impingement.

53) At the same time, an open-cycle system's discharges of waste heat may alter the receiving water body's natural thermal regime, including its peak temperatures and the timing and range of its temperature variations.

Depending on the amount of heat being discharged and the prevailing hydrothermal conditions in the receiving water, the thermal discharges could have a variety of adverse ecological effects because aquatic organisms and water quality may be affected in many ways by altered water temperature. For example, fish have optimal temperatures for growth, spawning, and other critical biological functions. They also display preferences for certain water temperatures and may, if possible, leave or avoid an area if water temperatures exceed their preferred levels. Furthermore, altered water temperatures may benefit certain species at the expense of other species, causing shifts in the make-up of the community of organisms in the affected aquatic habitat. Finally, increased water temperatures can also harm water quality in many ways, such as by promoting algal growth or contributing to reduced levels of dissolved oxygen. Of course, depending on the magnitude of the thermal discharge and the character of the receiving water and the organisms inhabiting it, a waste heat discharge could dissipate in the receiving water with relatively minor environmental effects.

54) Closed-cycle cooling systems can greatly reduce water withdrawals and waste heat discharges. “Wet closed-cycle cooling systems” use cooling towers to chill the heated water so that it can be re-used for condensing steam. In this process, the power plant’s waste heat is largely

emitted to the atmosphere. Wet, closed-cycle systems do require some water withdrawals and thermal discharges, but can reduce such withdrawals and discharges by approximately *95 percent* as compared to an open-cycle system. *See*, *e.g.*, 66 Fed. Reg. 65,256, 65,273 (Dec. 18, 2001) (Final Phase I CWA § 316(b) Rule for new facilities). "Dry cooling towers" require no water withdrawals or thermal discharges at all, as they use air blown across the condensers to condense the steam and expel the facility's waste heat to the atmosphere.

55) Although closed-cycle cooling technology has been available for decades, many older power plants, including many that pre-dated the CWA, were constructed with open-cycle cooling systems and located along water bodies that could provide a ready source of cooling water. Open-cycle cooling systems are generally less expensive to install and operate than closed-cycle systems. Moreover, at an existing facility, retaining an open-cycle system would obviously be easier and less expensive than replacing it with a new closed-cycle cooling system.

56) The CWA addresses both ends of the cooling process: *i.e.*, the withdrawal of water for cooling and the discharge of waste heat.

57) A point source discharger taking water from a water body of the United States for cooling through a cooling water intake structure is subject

to CWA § 316(b), 33 U.S.C. § 1326(b), which "require[s] that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." This is referred to as the "Best Technology Available" standard.

58) In practice, applying CWA § 316(b)'s Best Technology Available standard to the NPDES permits for existing power plants has been extremely difficult and time-consuming. Until promulgation of the 2014 CWA § 316(b) Regulations, *see* Paragraph 30, above, there were no national categorical requirements specifying the Best Technology Available to such facilities. (I discuss the 2014 CWA § 316(b) Regulations in Paragraph 65, below.) Instead, permitting authorities had to determine the Best Technology Available on a case-by-case, Best Professional Judgment basis. This meant that the sort of analysis required to support a national rulemaking had to be conducted on a facility-by-facility basis for each permit. This type of site-specific biological, engineering, and economic analysis is exceedingly challenging for permitting authorities and can raise a wide range of issues that trigger extensive public comment. Viable technological alternatives have to be identified and their environmental performance (*i.e.*, their ability to reduce entrainment and impingement), cost, non-water environmental effects, and energy effects have to be assessed. Furthermore, EPA compares

the costs and benefits of options to determine if the costs are warranted. Once a particular technological approach is determined to be the Best Technology Available, then permit requirements would be designed to reflect that technology.

59) All of this work has been made even more difficult by multiple changes in the applicable regulations under CWA § 316(b). EPA first attempted to promulgate national requirements under CWA § 316(b) in the mid-1970's, but after a legal challenge, a federal court remanded the regulations to the Agency. *See Appalachian Power Company v. United States Environmental Protection Agency,* 566 F.2d 451 (4th Cir. 1977) (remanded on procedural grounds). For decades following this decision, EPA did not promulgate national requirements and permitting authorities applied § 316(b) on a site-specific, Best Professional Judgment basis.

60) Then, in 2001, EPA promulgated new national categorical Best Technology Available requirements for cooling water intake structures at *new* facilities. *See* 40 C.F.R. Part 125, Subpart I. Referred to as the "Phase I Rule," these regulations found closed-cycle cooling to be the Best Technology Available for new facilities and, among other things, specified that installing that technology would comply with the standards. Industry and environmental organizations challenged the regulations. In a 2003

decision, the United States Court of Appeals for the Second Circuit largely upheld the regulations. *See Riverkeeper, Inc. v. U.S. Environmental Protection Agency,* 358 F.3d 174 (2d Cir. 2004) ("*Riverkeeper I*"). These requirements do not, however, apply to existing facilities.

61) In 2004, EPA promulgated final regulations for *existing facilities*, which were referred to as the "Phase II Rule." *See* 40 C.F.R. Part 125, Subpart J (suspended in 2007, except for 40 C.F.R. § 125.90(b)). The Phase II Rule was complex and once again litigation ensued, as industry, environmental interests, and a number of states challenged the regulations. In a 2007 decision, the Second Circuit remanded or struck down several key aspects of the Phase II Rule, *see Riverkeeper, Inc. v. U.S. EPA*, 475F.3d 83 (2d Cir. 2007) ("*Riverkeeper II")*; *rev'd in part, Entergy Corp. v. Riverkeeper, Inc.,* 556 U.S. 208, 226-227 (2009), and EPA suspended the regulations on July 9, 2007. 72 Fed. Reg. 37,107 (July 9, 2007) (notice of suspension). The sole exception to the suspension was 40 C.F.R. § 125.90(b), *id.,* which called for permit requirements under CWA § 316(b) to be determined on a case-by-case, Best Professional Judgment basis in the absence of applicable national categorical standards. Thus, the Best Professional Judgment regime remained in place.

62) A key aspect of the *Riverkeeper II* decision was the ruling that the CWA did not allow consideration of comparative cost/benefit analysis as

a factor in determining the Best Technology Available. This contradicted both the terms of the Phase II Rule and EPA's Best Professional Judgment permitting practice prior to the Phase II Rule. In 2009, however, the United States Supreme Court reversed the Second Circuit's decision on the cost/benefit issue, ruling that EPA could, but did not have to, consider cost/benefit comparisons in its Best Technology Available determinations. *Entergy,* 556 U.S. at 222-227.

63) These legal shifts greatly complicated Region 1's permitting decisions as analyses under development, and in some cases permits that had been issued, needed to be adjusted and re-adjusted in response to changing legal requirements. *See* Ex. A, ¶¶ 72-73 (discussion of the Canal Station and Kendall Station permit proceedings).

64) After the *Entergy* decision, EPA renewed efforts to promulgate national Best Technology Available standards for existing facilities under § 316(b). On April 20, 2011, EPA issued new proposed regulations for public comment. *See* 76 FR 22174-22288 (April 20, 2011). As *proposed* regulations, they did not strictly govern ongoing permitting, which continued on a Best Professional Judgment basis under 40 C.F.R. § 125.90(b), but the content of the proposed regulations and the schedule for finalizing them became another consideration for power plant permits. In my 2013

Declaration, I reported that EPA was then planning final action on the proposed regulations by June 27, 2013. *See* Ex. A, ¶ 55.

65) EPA ultimately promulgated the final Best Technology Available requirements for cooling water intake structures for existing facilities on August 15, 2014. 79 Fed. Reg. 48300 (Aug. 15, 2014) (Final Rule). The new 2014 CWA § 316(b) Regulations are procedurally and substantively complex and address issues of engineering, biology, economics, energy, and more, related to the regulation of cooling water intake structures. *See* 40 C.F.R. Part 125, Subpart J. The 2014 CWA § 316(b) Regulations are now in effect, *see* 79 Fed. Reg. 48424, and must be applied to permits being issued at this time. *See* 40 C.F.R. § 122.43(b)(1). The permitting analysis required by the regulations is still difficult and time-consuming. The regulations provide a range of options for impingement control and call for continued case-by-case Best Professional Judgment selection of entrainment control measures. The regulations also provide detailed requirements regarding the content of such Best Professional Judgment determinations adding to the administrative challenge of compiling defensible Best Technology Available determinations. *See* 40 C.F.R. §§ 125.94(c) and (d), 125.98(e), (f) and (g).

66) The 2014 CWA § 316(b) Regulations are currently being challenged in the Court of Appeals for the Second Circuit. *Cooling Water*

Intake Structure Coalition v. EPA, Case No. 14-4645 (2d Cir.). My attorneys have informed me that final briefs are not scheduled to be submitted to the Court until early February 6, 2017 and a date for argument is not yet set. As a result, while EPA expects to prevail in this litigation, the time for a decision is uncertain.

67) As explained above, NPDES permits also must include any more stringent cooling water intake structure requirements needed to comply with any applicable state water quality standards. New Hampshire's water quality standards apply to the effects of cooling water withdrawals from its state waters. *See* 314 CMR 4.05(3)(b)(2)(d); N.H. Code R. Env-Wq 1701.02(b). Therefore, permit conditions governing cooling water withdrawals by Merrimack and Schiller must also satisfy relevant water quality criteria and designated uses from New Hampshire's water quality standards.

68) In addition to regulating cooling water withdrawals, the CWA also regulates discharges of waste heat. Heat is defined as a "pollutant" under the CWA, *see* 33 U.S.C. § 1362(6), and discharges of heat are prohibited unless authorized by an NPDES permit. As explained above, facilities with open-cycle cooling systems typically discharge their waste heat to a nearby water body.

69) As for other pollutants, permit limits governing the discharge of waste heat must, at a minimum, satisfy federal "technology-based" requirements. *See* 33 U.S.C. § 1311(b). More specifically, CWA § 301 requires that thermal discharges be limited to levels based on using the "best available technology economically achievable … which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants" ("Best Available Technology". 33 U.S.C. §§ 1311(b)(2)(A) and (F). In determining the Best Available Technology, EPA investigates technological options to identify the best performing technology in terms of reducing pollutant discharges and then further assesses the options in light of the several factors specified in the statute and regulations (*e.g.*, cost, non-water environmental effects, energy requirements). 33 U.S.C. § 1314(b)(2)(B); 40 C.F.R. § 125.3(d)(3). Technology-based effluent limits technology-based effluent limits are then set for the permit based on the pollutant reductions achievable using the Best Available Technology.

70) Although EPA has promulgated national Effluent Limitation Guidelines for the steam electric power plant industrial category, they do not address the discharge of waste heat. *See* 40 C.F.R. Part 423 (the "Steam-Electric Effluent Limitation Guidelines"). As a result, the Agency sets technology-based effluent limits for controlling thermal discharges based on

a Best Professional Judgment, facility-specific application of the Best Available Technology standard. *See* 33 U.S.C. § 1342(a)(1)(B) and 40 C.F.R. § 125.3(c)(2).

71) As stated above, NPDES permit limits must also include any more stringent limits needed to comply with state water quality standards. *See* 33 U.S.C. §§ 1311(b)(1)(C), 1370. In other words, when both technology-based and water quality-based effluent limitations apply, the permit's effluent limits are governed by whichever is more stringent. NDPES water quality-based effluent limits must prevent discharges that would cause or contribute to violations of the applicable water quality standards. New Hampshire has water quality standards pertaining to the thermal condition of its waters and the protection of aquatic organisms and their habitat. *See, e.g.,* N.H. Rev. Stat. Ann. §§ 485-A:8(II) and (VIII) and N.H. Code R. Env-Wq 1703.01(b) and 1703.13(b).

72) For discharges of heat, a discharger may seek a variance under CWA §316(a). 33 U.S.C. § 1326(a), from either technology-based or water quality-based effluent limitations, or both. CWA § 316(a) provides that the permitting authority may set thermal discharge limits less stringent than otherwise required by technology-based and water quality-based effluent limits if persuaded that the alternative limits will nevertheless assure the

protection and propagation of the receiving water body's balanced, indigenous population of shellfish, fish, and wildlife. *See* 33 U.S.C. § 1326(a); 40 C.F.R. Part 125, Subpart H. Similar to Best Professional Judgment decisions, a § 316(a) thermal variance determination is based on a site-specific evaluation that typically requires complex scientific and legal analysis. *See id.*

73) Beyond the cooling system issues, another difficult set of issues for the NPDES permits for some power plants is the need to set discharge limits and other requirements for wastewater discharges from flue gas desulfurization ("Flue Gas Desulfurizaton") scrubbers, bottom ash or fly ash transport water systems and/or coal combustion residuals ("Coal Combustion Residuals") impoundments. Flue Gas Desulfurizaton scrubbers are a type of air pollutant emissions control equipment that can reduce the emission of toxic air pollutants, such as mercury and arsenic. While "dry" Flue Gas Desulfurizaton scrubbers do not produce wastewater, a "wet" Flue Gas Desulfurizaton scrubber can produce a wastewater stream containing the same toxic pollutants that were removed from the air emissions. NPDES permits must address any such wastewater discharges. As more facilities have installed Flue Gas Desulfurizaton scrubbers to meet air pollution control requirements, NPDES permit issues in this area have increased. In addition, Coal Combustion

Residuals impoundments receive wastes produced as a result of coal combustion, such as "bottom ash," and they may discharge wastewater containing a variety of pollutants, including toxic pollutants, if they are not managed and controlled properly. In other cases, bottom ash transport water and/or fly ash transport water may be directly discharged to a receiving water and these waste streams also must be controlled.

74) At the time of my 2013 Declaration, *see* Ex. A, ¶ 62, EPA was working to update the Steam-Electric Effluent Limitation Guidelines, 40 C.F.R. Part 423, to add new Guidelines for wastewater discharges from both Flue Gas Desulfurizaton scrubbers, Coal Combustion Residuals impoundments and bottom ash and fly ash transport water systems. EPA was planning to sign a notice of proposed rulemaking by April 19, 2013, and a decision taking final action on the rule by May 22, 2014.

75) EPA signed a Proposed Rule for the new Steam-Electric Effluent Limitation Guidelines on April 19, 2013, and the Proposed Rule was published in the Federal Register on June 7, 2013. 78 Fed. Reg. 34432, 34533 (June 7, 2013). EPA ultimately promulgated the Final Rule updating the Steam-Electric Effluent Limitation Guidelines on September 30, 2015. 80 Fed. Reg. 67838, 67893 (Nov. 3, 2015) (the "2015 Steam-Electric Effluent Limitation Guidelines"). These complex new regulations set a number of new effluent standards for steam-electric power plants, including, as expected, Effluent

Limitation Guidelines for Flue Gas Desulfurizaton wastewater discharges and bottom ash transport water discharges. The 2015 Steam-Electric Effluent Limitation Guidelines have been challenged in court from multiple sides. My attorneys inform me that the litigation is ongoing in the Court of Appeals for the Fifth Circuit. *Southwestern Electric Power Co. v. EPA* (5th Cir., Case No. 15-60821).

76) As Region 1 has worked on its power plant NPDES permits, it has had to account for the development of both the 2014 CWA § 316(b) Regulations and the 2015 Steam-Electric Effluent Limitation Guidelines to determine their effect, if any, on ongoing permit proceedings.

VI. NPDES PERMITS FOR POWER PLANTS IN REGION 1

77) As stated above, Region 1 is responsible for approximately 16 individual permits for existing power plants in Massachusetts and New Hampshire, including responding to any permit applications for proposed new facilities. Due to their specialized expertise in the application of CWA § 316(b) and the development of thermal discharge limits, the same Region 1 staff are also responsible for individual permits for approximately an additional 9 non-power plants with regulated cooling water intake structures and/or thermal discharges, while 33 additional smaller such facilities are covered by a non-contact cooling water general permit issued by the Region. These staffers also help oversee, and provide technical and legal assistance to, states that are

authorized to administer the NPDES program and are writing NPDES permits for power plants. Moreover, these same staffers also have responsibility for numerous other matters involving NPDES permits and, in some cases, matters outside of the NPDES program.

78) In my 2013 Declaration, Ex. A, ¶¶ 31-32, I indicated that an estimated 25 power plants nationally had NPDES permits that had been backlogged for ten years or more, and that six of those facilities were in Massachusetts or New Hampshire. These six are Newington Station ("Newington"), Canal Station ("Canal"), Mt. Tom, Schiller, Merrimack, and Pilgrim Nuclear Power Station ("Pilgrim Nuclear"). I also explained that Region 1 was not currently devoting resources to reissuing the Newington or Canal permits because these facilities rarely operate. *Id.,* ¶¶ 33 and 73(f) and (g). (I also explained that Region 1 had issued Canal a new final permit in August 2008 – when the facility operated on a much more frequent basis – but that the Region later withdrew the permit and re-noticed its CWA § 316(b) requirements because they needed to be changed after EPA suspended the Phase II Rule in response to *Riverkeeper II*. *Id.* at ¶¶ 33, 73. When Canal's operations dropped off precipitously, however, Region 1 shifted its resources to other permits and has not completed this reissuance process.)

79) As will be discussed in detail farther below, since the court's order of May 2013 in the prior Sierra Club case, Region 1 has taken at least some

formal action on each of the remaining four permits in this group: Mt. Tom, Schiller, Merrimack and Pilgrim Nuclear. These four have been among Region 1's highest priority industrial permits. If not for the litigation with Sierra Club during 2012 and 2013, I believe that we would have been further along on these permits in light of the Region 1 legal and technical staff time that had to be devoted to the case. In any event, the Region issued new draft and final permits to Mt. Tom on April 9, 2014, and September 30, 2015, respectively. EPA issued new draft permits to Schiller and Pilgrim Nuclear on September 30, 2015, and May 18, 2016, respectively, and issued a partially revised draft permit for Merrimack on April 18, 2014, having earlier issued a new draft permit to the facility on September 30, 2011. Region 1 is now moving forward on final permits for Pilgrim Nuclear, Merrimack and Schiller.

80) It is important to consider the Schiller and Merrimack permits in the context of Region 1's overall program for power plant NPDES permits and water pollution control in general. In 2013, Petitioners were focused on permits for Mt. Tom and Schiller, but they now focus on Schiller and Merrimack. Other citizens, however, are more interested in other permits. For example, Region 1 has also received requests to expedite the permit for Pilgrim Nuclear as much as possible and we received voluminous comments on the May 2016 draft permit issued for that facility. As another example, the Region recently received comment letters and oral comments from 150 unique commenters

expressing 1321 separate comments on a Massachusetts municipal stormwater general permit issued in April 2016. The Region must consider the entire universe of NPDES permits, and other work as well, when we set priorities in the public interest. Indeed, the Region's non-permitting work also affects the pace of power plant permitting because members of our permit teams also have high priority responsibilities in other areas.

81) Region 1 is justifiably proud of its record for taking on and issuing tremendously difficult permits. This record demonstrates that the pace of issuing permits, including power plant permits, is not a matter of inaction or foot-dragging. In order to provide the necessary context for assessing the status of the Mt. Tom and Schiller permits, my 2013 Declaration presented a lengthy discussion of the many power plant permits we had already issued. This discussion highlighted some of the difficulties encountered, including needing to set multiple limits on a case-specific basis, having to apply and then re-apply legal standards that changed during the permit proceedings, and having to handle multiple permit appeals. Moreover, as noted above, during 2012 and approximately the first half of 2013, Region 1 lost a great deal of staff time that could have been spent on permitting work to working on Sierra Club's cases filed in both the District Court and the First Circuit. *See* ¶ 5), above. Sierra Club's current case focuses more on what has happened since the court's May 2013 Order, but the Petitioners continue to point out that the Schiller and

Merrimack permits have been backlogged for many years even before 2013. As a result, in Paragraph 13, I again mention the other power plant permits issued by Region 1 during this time to provide necessary context. In the main body of this Declaration, I will focus on relevant actions since May 2013.

VII. SCHEDULE FOR MT. TOM AND SCHILLER PERMITS, AS OF MAY, 2013

82) In my 2013 Declaration, ¶ 82, I explained that Region 1 was then planning to reissue NPDES permits for both Mt. Tom and Schiller according to the following timetable: draft permits by June 30, 2014, and final permits by June 30, 2016.

83) I also detailed the reasons for this schedule, *see id.* at ¶¶ 82-100, including that Region 1 regarded completing NPDES permits for GE Aviation in Lynn, MA, Pilgrim Nuclear, and Merrimack, to be higher priorities than the Schiller and Mt. Tom permits. *Id.* at ¶¶ 94-100.

84) In my 2013 Declaration, ¶¶ 101-106, I also emphasized the need to retain reasonable schedule flexibility for the Mt. Tom and Schiller permits because of the possibility that unforeseen developments could justifiably require more time for completion of those permits. I explained that experience showed that planned permitting schedules are often affected by events entirely out of our control, and that additional time could be needed (a) to determine permit limits in light of the then anticipated new CWA § 316(b) Regulations

and new Steam-Electric Effluent Limitation Guidelines, (b) to reassess permit limits if litigation altered the new standards, (c) to accommodate the unpredictable demands of litigation concerning other permits (such as the GE Aviation permit), as well as the then uncertain course of the Sierra Club's own law suit, (d) to address unexpectedly voluminous or difficult comments submitted during the public comment processes for the permits, including any unanticipated need to re-notice a permit for an additional comment period, (e) to accommodate the demands of any new, unforeseen priorities that might arise, (f) to accommodate any longer-than-expected interagency reviews under statutes such as the ESA, the CZMA and/or the MSFCMA, and (f) to accommodate any time lost because of government shutdowns and furloughing of employees or significant losses of staff or budget resources.

VIII. PROGRESS SINCE THE COURT'S MAY 2013 JUDGMENT

85) Since the court's May 2013 Judgment, Region 1 has made strong progress on the timeline we estimated in 2013. Moreover, we did so despite the occurrence of many of the type of events that I indicated could potentially slow our progress (*e.g.*, permit appeal litigation, new standards, new and previously unforeseen priorities, staffing losses). Region 1 described these facts to Sierra Club in a letter dated September 21, 2016, from Damien F. Houlihan of EPA

Region 1 to Mark Kresowik of Sierra Club. A copy of that letter is attached hereto as Exhibit C.

86) *Mt. Tom Station.*

Having estimated that we could issue a draft NPDES permit to Mt. Tom by June 30, 2014, Region 1 actually issued the draft permit on April 9, 2014. https://www3.epa.gov/region1/npdes/permits/draft/2014/draftma0005339permit.pdf (last accessed on December 16, 2016). In addition, having estimated that we could issue the final NPDES permit to Mt. Tom by June 30, 2016, Region 1 issued the final permit to Mt. Tom on September 30, 2015. *See* https://www3.epa.gov/region1/npdes/permits/2015/finalma0005339permit.pdf (last accessed on December 16, 2016). More detailed information about the Mt. Tom facility is provided in Exhibit A to this Declaration (*see* ¶¶ 80(a) and 81).

87) *Schiller Station.*

a) Having estimated that we could issue a draft NPDES permit to Schiller by June 30, 2014, Region 1 issued the draft permit to Schiller on September 30, 2015. https://www.epa.gov/sites/production/files/2015-09/documents/draftnh0001473permit.pdf (last accessed December 16, 2016).

b) Having estimated that it could issue a final permit to Schiller by June 30, 2016, Region 1 has not yet issued the final permit but is working to complete and issue it.

c) Schiller is a small-to-moderate-sized power plant located in Portsmouth, New Hampshire, currently owned and operated by PSNH. It has the capacity to generate approximately 150 Megawatts ("MW") of power from three 50-MW generating units. Two of the units burn coal, while another unit was converted in 2006 to burn wood. Schiller's existing NPDES permit expired on October 11, 1995, but has been administratively continued.

d) The facility uses an open-cycle cooling system to withdraw approximately 100 million gallons per day ("MGD") of water from, and discharge waste heat to, the Piscataqua River. The Piscataqua is a fast-flowing, cold-water tidal river which flows into the Atlantic Ocean and forms part of the boundary between New Hampshire and Maine. The facility's two cooling water intake structures provide no protection against entrainment and little protection against impingement mortality. Schiller's current permit allows discharge temperatures of up to 95ºF, with intake/discharge temperature differentials of up to 25ºF.

e) In recent years, Schiller's coal-burning units have experienced greatly diminished operations. As the price of natural gas has dropped below that of coal, and as other more efficient generating capacity has come on line and energy conservation has improved, the capacity factor for Schiller's two coal units has dwindled from over 80 percent in 2007 and 2008, to around 60

percent in 2009, and to less than 20 percent in 2015 and 2016. *See* Ex. D. Schiller's wood-burning unit, however, runs at a much higher capacity factor.

f) If natural gas prices remain low, future operations of Schiller's coal units would be expected to remain at a low level. Indeed, closure of the coal units is a distinct possibility, though not a certainty. *See* *https://www.iso-ne.com/about/regional-electricity-outlook/grid-in-transition-opportunities-and-challenges/power-plant-retirements* (ISO-New England, Power Plant Retirements webpage) (last accessed on December 16, 2016). Mt. Tom closed its coal-burning operation in 2015 and other coal-burning facilities have also closed or announced their intention to close in the near future. *Id.* PSNH, however, has not announced plans to terminate the Schiller coal units.

g) It is my understanding that these units, along with PSNH's other electrical generating assets (i.e., fossil-fuel burning plants and hydroelectric facilities), are currently on auction pursuant to the State of New Hampshire's plan for deregulating its public utilities. This plan requires PSNH to divest itself of its generating assets. It is also my understanding that the future of the Schiller coal units is likely to be determined by the results of the auction, which is scheduled to take place during 2017. *See* Exhibit E (Article, *Manchester Union Leader,* "Deadlines Set for Eversource to Sell its Power Plants" (November 16, 2016)). Needing to learn about and follow the state deregulation process has also added time to the Schiller permit proceeding.

h) In developing the draft permit for Schiller, Region 1 had to set facility-specific thermal discharge limits based on consideration of Best Professional Judgment technology-based limits, site-specific water quality standards-based limits, and a site-specific CWA § 316(a) variance application, as well as set site-specific cooling water intake structure requirements and limits for other pollutant discharges, taking into account both the 2014 CWA § 316(b) Regulations and the 2015 Steam-Electric Effluent Limitation Guidelines. Because both new sets of regulations were promulgated later than was anticipated at the time of my 2013 Declaration – the 2014 CWA § 316(b) Regulations were anticipated in June 2013 but were actually promulgated in August 2014, while the 2015 Steam-Electric Effluent Limitation Guidelines were anticipated in May 2014 but were actually promulgated in September 2015, *see* 2013 Declaration, ¶ 102 – this delayed completion of our analyses for the draft Schiller permit.

i) Region 1 initially set a two-month comment period, but later granted requests to extend the public comment period for an additional two months. The comment period was closed on January 27, 2016. This extension of the comment period has also pushed permit completion back. The Region has received a substantial number of comments representing conflicting views about many issues. We are now working on consideration of these comments.

j) In addition, Region 1 is also monitoring any new developments concerning the coal units' future operating profile, particularly in light of the auction process discussed above. I have explained that while Schiller's wood-burning unit operates at a relatively high level, its coal-burning units now operate at a very low capacity factor. As a result, the facility now has a relatively lesser actual effect on the marine environment than it once had. That said, there are currently no firm plans or requirements to close any of the units at the facility and PSNH is still requesting a permit to authorize full-scale operations. Therefore, Region 1 continues to regard developing a new final permit for Schiller to be a priority. If plans to close the Schiller coal units emerge, Region 1 would need to consider whether such plans would indicate that permit conditions should be changed or that the priority status of this permit should be revised.

88) I will discuss Region 1's current timetable for issuing the final Schiller permit farther below in this Declaration, but first I will address other important developments since May 2013.

89) *GE Aviation*

a) In my 2013 Declaration, ¶¶ 75 and 94-96, I identified the NPDES permit for GE Aviation (including its on-site power plant) as a higher priority matter for Region 1 than either the Mt. Tom or Schiller permits. I explained that this permit was a high priority for EPA because, among other reasons, the

power plant in question was directly across the Saugus River from another power plant that we had completed permitting for, and both facilities withdrew water for cooling from, and discharged waste heat to, the river within a state-designated Area of Critical Environmental Concern.

b) As planned, Region 1 completed the GE Aviation permit proceeding, but only after resolving a permit appeal filed by the permittee. Specifically, Region 1 issued the final permit for GE Aviation on September 30, 2014. In my 2013 Declaration, I had noted the possibility of litigation over this permit that could affect the timetable for other permits, such as Schiller and Mt. Tom. As it turned out, GE Aviation did appeal the permit and the litigation delayed the new permit from taking effect and made additional demands on staff time that contributed to slower progress on other high priority work.

c) Ultimately, after months of negotiations and a variety of procedural filings in the permit appeal litigation, Region 1 and GE Aviation agreed on a resolution of the appeal. Region 1 issued certain modifications to the permit and GE Aviation agreed to certain changes at the facility. The permit appeal was dismissed on September 29, 2015, and the new permit went into effect. EPA also had to issue additional modifications to the GE Aviation permit in August 2015 and July 2016. The new permit achieved a number of important environmental improvements, including reduced thermal discharges,

reduced cooling water withdrawals, and improved control of stormwater discharges into the state-designated Area of Critical Environmental Concern.

90) *Pilgrim Nuclear Power Station.*

a) As discussed in my 2013 Declaration, Ex. A, ¶ 78, Pilgrim Nuclear is a large (715 MW) nuclear power plant in Plymouth, Massachusetts. At the time of my 2013 Declaration, Ex. A, ¶¶ 78 and 94, I indicated that Region 1 had not yet issued a new permit to Pilgrim Nuclear, but was working on a new permit and that, as with the permits for GE Aviation and Merrimack, completing this permit action was a higher priority for the Region than the Mt. Tom and Schiller permits.

b) Pilgrim Nuclear has an open-cycle cooling system that withdraws about 510 MGD of water from, and discharges waste heat to, Cape Cod Bay. Pilgrim Nuclear's existing NPDES permit expired on April 29, 1996, and was administratively continued.

c) While working on this permit, Region 1 has had to ensure that its approach is consistent with the new 2014 CWA § 316(b) Regulations, including a provision requiring consultation with the Nuclear Regulatory Commission under certain circumstances in connection with permits for nuclear power plants. *See* 40 C.F.R. § 125.94(f). This has added to the time needed for the development of the draft permit.

d) Then, on October 13, 2015, "citing poor market conditions, reduced revenues and increased operational costs, Entergy announced that it would shut PNPS down, essentially terminating electricity generation by the facility, no later than June 1, 2019." https://www.epa.gov/sites/production/files/2016-05/documents/draftma0003557permit.pdf (Fact Sheet, p. 6) (last accessed on December 27, 2016). It is my understanding that other nuclear plants have also recently closed for similar reasons. *See https://www.iso-ne.com/about/regional-electricity-outlook/grid-in-transition-opportunities-and-challenges/power-plant-retirements* (ISO-New England, Power Plant Retirements webpage) (last accessed on December 16, 2016).

e) Despite this change in Pilgrim Nuclear's plans, Region 1 still needs to issue the facility a new NPDES permit because Pilgrim Nuclear plans to operate through 2019, and because it is expected to have certain pollutant discharges even after that time. The Region did, however, have to restructure its draft permit to address the new closure plan. The planned closure made selecting Best Technology Available more straightforward in many ways, but the new situation has also presented many complexities and restructuring the draft permit to address the new circumstances added additional time to its development.

f) Region 1 issued a new draft permit for Pilgrim Nuclear on May 18, 2016. https://www.epa.gov/sites/production/files/2016-05/documents/draftma0003557permit.pdf (last accessed December 27, 2016). A 60-day comment period was provided, which was then extended by one week.

g) In response to the draft permit, the Region received a very large number of conflicting comments from the company, various non-governmental organizations, and others. The Region is currently considering the public comments and working toward a final permit. This permit continues to be a priority for the Region.

91) *Merrimack Station*

a) As discussed in my 2013 Declaration, ¶ 76, Merrimack Station is a large coal-fired power plant that produces 470 MW of electricity. It is located in Bow, New Hampshire, along the Hooksett Pool section of the Merrimack River. Like Schiller, Merrimack is owned and operated by PSNH. The facility uses an open-cycle cooling system, taking up to 287 MGD of water from the Hooksett Pool to use for cooling, and then discharging waste heat and other pollutants to the river. *Id.*

b) Merrimack's existing permit expired on July 27, 1997, and was administratively extended. I indicated in my 2013 Declaration that Region 1

regarded issuance of this permit to be a higher priority than the Mt. Tom and Schiller permits. Ex. A, ¶¶ 76 and 94. We maintain this view at present.

c) On September 30, 2011, Region 1 published a new Draft Permit for Merrimack for public comment. *See* *http://www.epa.gov/region1/npdes/merrimackstation/index.html* (EPA Region 1 Website, last accessed on December 15, 2016). The work on this permit was extremely challenging and required case-specific determinations of technology-based and water quality-based limits on discharges of waste heat. It also required a case-specific decision on Merrimack's CWA § 316(a) variance application. In addition, it required a case-specific determination of cooling water intake structure requirements under CWA § 316(b). Beyond that, the Region also had to develop case-specific technology-based and water quality-based effluent limits for Flue Gas Desulfurizaton wastewater discharges from the facility, and effluent limits for other pollutant discharges as well. In support of the draft permit, Region 1 wrote over 500 pages of supporting analysis in the Fact Sheet (including its attachments) and assembled and made available on its website an administrative record of over 800 documents.

d) In response to public requests, the public comment period was extended to five months. The Region received a tremendous volume (over 1400 pages) of conflicting comments on the Draft Permit from a wide variety of commenters. *See*

http://www.epa.gov/region1/npdes/merrimackstation/comments.html (EPA Region 1 Website, last accessed on December 15, 2016).

e) While working on considering and responding to the comments submitted on the permit, Region 1 gathered substantial new information regarding new Flue Gas Desulfurizaton wastewater treatment technology that had been installed at Merrimack. On the basis of this information, the Region decided that it should change the case-specific effluent limits proposed to control Flue Gas Desulfurizaton wastewater discharges and issue a revised draft permit for public comment. Region 1 issued the revised draft permit on April 18, 2014 (the "Revised Draft Permit"). *See* https://www3.epa.gov/region1/npdes/merrimackstation/index.html (last accessed December 27, 2016).

f) The Region provided a two-stage comment process on the Revised Draft Permit whereby after the initial round of comments were provided, a second period was provided during which interested persons could comment on the comments earlier submitted by other commenters. *See* 40 C.F.R. § 124.14(a). The first-stage comment period was set for 60 days but then was extended by 60 more days in response to public requests. The second-stage comment period went for 60 additional days. EPA received hundreds more pages of comments during this six-month (combined) comment period. *Id.*

g) At the time of my 2013 Declaration, Region 1 had not yet decided to issue the Revised Draft Permit and, therefore, I neither mentioned it nor factored into our estimated schedule for the Mt. Tom and Schiller permits. Developing the Revised Draft Permit, holding a lengthy comment period on it, and needing to consider the many additional comments submitted on it, have all combined to add substantially to the time needed to develop the final permit for Merrimack.

h) Region 1 is currently working on considering and responding to public comments and developing a final permit. As we have worked on the permit, we have had to apply both the new 2014 CWA § 316(b) Regulations as well as the new 2015 Steam-Electric Effluent Limitation Guidelines. The former address cooling water intake structure requirements, while the latter impose new requirements applicable for the Merrimack permit for both Flue Gas Desulfurizaton wastewater and bottom ash transport water. Applying these new regulations has further complicated the permitting effort.

i) Unexpectedly, additional time was also needed to clarify certain thermal discharge data relevant to the Merrimack permit. This involved EPA sending an information request letter to PSNH under CWA § 308(a), 33 U.S.C. § 1318(a), seeking information to clarify any potential uncertainty or confusion with regard to certain temperature data previously submitted to EPA by the Company. *See* Exhibit F (Letter from Ken Moraff, EPA, to William H.

Smagula, PSNH (November 30, 2015). Developing this letter and considering PSNH's response to it has added time to the permit process, but Region 1 has deemed it important to clarify this information in order to ensure technically sound permitting determinations.

j) As with Schiller, Merrimack Station's operations have been much reduced in recent years. Once a facility that operated most of the time, Merrimack's capacity factor has steadily dropped over the last few years and the facility operated less than 20 percent of the time in 2016. *See* Exhibit G (operating frequency graphs). Also like Schiller, Merrimack is up for auction together with PSNH's other generating assets. The plan for Merrimack remains to be seen, but the facility has been identified as a closure risk, like other coal-burning power plants in New England. *See https://www.iso-ne.com/about/regional-electricity-outlook/grid-in-transition-opportunities-and-challenges/power-plant-retirements* (ISO-New England webpage on "Plant Retirements"). Still, PSNH has not identified plans to close the facility and continues to request a permit that would allow full-scale operations. As a result, at this time, completing this permit remains a high priority for Region 1, but we are carefully watching the auction process. Our present timeline for finalizing this permit is discussed below.

k) The speed of permitting has also been slowed by a series of large-scale Freedom of Information Act (FOIA) requests from PSNH for records

related to this permit. Since the court's May 2013 Order, Region 1 has received three such FOIA requests. We have completed the processing of two and are currently working on the third. This work is particularly time-consuming due primarily to the proliferation of electronic records that accompanies the modern workplace, and the same managers, scientists and lawyers that work on the permit also have to handle related FOIA requests. Responding to each of these FOIA requests has required the prompt review of thousands of records due to the statutory deadlines for such response.

l) Finally, I have to point out that the Region's progress was slowed for a period by the retirement of the primary permit writer assigned to the project. While the project was reassigned to another experienced permit writer, time was inevitably lost as the new employee came up to speed on the project. As I've described previously, the region has a limited number of staff with knowledge and expertise in power plant permitting. Therefore, any staff loss in this arena results in inefficiencies and impacts our ability to complete projects.

92) *Northeast Gateway Offshore LNG Terminal*

a) In my 2013 Declaration, Ex. A, ¶ 74, I discussed the NPDES permit successfully issued by Region 1 to the Northeast Gateway offshore liquefied natural gas ("LNG") import terminal. Although not a power plant, this facility has a cooling water intake structure and thermal discharges. Therefore, like a power plant permit, the permit for this facility required

thermal discharge limits and cooling water intake requirements. Therefore, the same expertise required for power plant permits was also required for the Northeast Gateway permit.

b) Unforeseen at the time of my 2013 Declaration was the importance that would become attached to reissuing the Northeast Gateway permit in late 2014. Several factors combined to make prompt reissuance of the Northeast Gateway permit an urgent matter in late 2014. First, New England's reliance on natural gas both for generating electricity and for heating homes during cold weather, coupled with a dearth of pipeline capacity for importing gas into the region, had resulted in a regional shortfall of natural gas needed for generating electricity during cold weather. This winter shortfall was going to be addressed by electricity generated by more-polluting, more expensive oil-burning units unless additional natural gas could be supplied to the region. Northeast Gateway was in position to help supply this natural gas.

c) Since issuance of the original NPDES permit to the facility, however, it had become apparent that the facility could not fully comply with the terms of its original permit for certain technical/engineering reasons. These issues only became apparent after this innovative facility began initial operations. Therefore, adjustments to the original permit were needed to enable the facility to continue to operate and help supply needed natural gas.

d) As a result, it became important for EPA to address reissuance of Northeast Gateway's permit before the winter to determine if and how the permit could be revised to enable the facility to operate, while also protecting the environment consistent with the Clean Water Act. If the permitting could be completed, it was expected to benefit both the environment and consumer pocketbooks by enabling more natural gas to be brought into the region, thereby reducing the need to use dirtier, more expensive oil-burning units to meet peak demand, while also ensuring that Northeast Gateway's operations did not harm the marine environment.

e) Region 1 tackled the project and ultimately issued a new draft permit on November 20, 2014, and a new final permit on December 23, 2014. https://www3.epa.gov/region1/npdes/permits/2014/finalma0040266permit.pdf (last accessed on December 16, 2016).

f) Because prompt reissuance of the Northeast Gateway permit was not contemplated at the time of my 2013 Declaration, I neither mentioned it nor factored it into my estimate of the time needed to develop the Mt. Tom and Schiller permits. Yet, devoting technical and legal staff to work on the Northeast Gateway permit became a more important priority in 2014 than all the other power plant permits and it slowed progress on these other permits.

93) *Designation of Dredged Material Disposal Sites in Long Island Sound*

a) Designating dredged material disposal sites in Long Island Sound has nothing to do with NPDES permits for power plants and, therefore, I would generally not mention this item when addressing power plant permits. Indeed, I have not mentioned other important matters not involving power plant permits, such as very demanding municipal, industrial and stormwater permits, that compete for the time of our technical and legal staff. Nevertheless, because we are being sued about the pace of permitting for Schiller and Merrimack, I feel that it is important to mention that our lead attorney for power plant permits is also Region 1's lead attorney for matters under the Marine Protection, Research and Sanctuaries Act, 33 U.S.C. §§ 1401, *et seq.* (the "MPRSA"), and the National Environmental Policy Act, 42 U.S.C. § 4321, *et seq.* ("NEPA"), and that he has had to focus substantial effort over the least two years to certain matters under those statutes, some of which appear headed for litigation. Such litigation, if it occurs, will also make significant demands on his time in the coming months.

b) EPA is responsible for designating marine dredged material disposal sites under MPRSA § 103, 33 U.S.C. § 1413. EPA designates dredged material disposal sites in order to provide environmentally sound in-water disposal sites for suitable dredged material when alternative methods of managing the material are not available. *See* 40 C.F.R. Parts 227 and 228.

Dredging and dredged material management are needed to ensure safe navigation for recreational, commercial, public safety and military vessels. For a variety of reasons, the existing dredged material disposal sites in Long Island Sound were due to expire this year. *See* 81 Fed. Reg. 44220 (July 7, 2016) (unless regulatory revisions were timely adopted, the sites in the central and western regions of Long Island Sound would be suspended); 81 Fed. Reg. 87822 (December 6, 2016) (sites in eastern Long Island Sound to expire on December 23, 2016). Unless EPA took necessary actions under the MPRSA to maintain existing disposal sites, or designate new sites, no sites would be available in Long Island Sound. The federal government considered it highly undesirable as a matter of public policy for no sites to be available in the Sound, assuming environmentally appropriate sites could be identified. As a result, over the last two years, working on these matters became EPA's highest priority for our key attorney for power plant permits.

c) Over the last six months, EPA has completed two rulemakings designating, and setting requirements governing the use of, three dredged material disposal sites in the waters of Long Island Sound. *See* 81 Fed. Reg. 44220 (July 17, 2016) (Final Rule) (designation of the Central Long Island Sound and Western Long Island Sound Dredged Material Disposal sites); 81 Fed. Reg. 87820 (December 6, 2016) (Final Rule) (designation of the Eastern Long Island Sound Dredged Material Disposal site).

94) In sum, since the court's May 2013 Order, the power plant permitting team has:

a) Completed draft and final permits for Mt. Tom;

b) Completed the draft permit for Schiller;

c) Completed the final permit for GE Aviation, resolved the company's permit appeal, and completed two permit modifications associated with resolution of the permit appeal;

d) Completed draft and final permits for the Northeast Gateway offshore LNG terminal;

e) Completed a revised draft permit for Merrimack (and completed two major FOIA responses related to the Merrimack permit); and

f) Completed the draft permit for Pilgrim Nuclear.

95) All of this work has been completed while the Region has also completed substantial work related to developing permits, litigating permit appeals, and responding to FOIA requests, involving facilities within the universe of 307 non-power plant (municipal, industrial, and stormwater) individual permits and eight general permits in Massachusetts and New Hampshire. *See* Paragraph 14, above. Moreover, this work has been completed even as our lead attorney for power plant permits has needed to devote substantial time to two rulemakings related to dredged material management in Long Island Sound.

IX. REGION 1'S SCHEDULE FOR THE SCHILLER AND MERRIMACK PERMITS

96) Region 1 currently estimates that it will be able to take final action for the Merrimack and Schiller NPDES permits **by December 31, 2017**. (We estimate that we can also take final action on the Pilgrim Nuclear permit during 2017.) The basis of this timeline is explained below. I must emphasize that this is an *estimated* schedule and it is important that schedule flexibility be maintained for reasons discussed farther below.

97) Region 1's estimated schedule is designed to enable us to meet the anticipated substantive and procedural needs of the Merrimack and Schiller permits based on their current status, the issues that they present, and the work that we know remains. This schedule is also intended to allow us to continue working toward completing the Pilgrim Nuclear permit. It should be understood that members of Region 1's power plant permitting team working on the Merrimack and Schiller permits will also need to be working on other important matters and that our schedule attempts to accommodate that.

98) In our September 21, 2016, letter to Sierra Club, Ex. C, we estimated that we would issue final permits for Merrimack by June 30, 2017, and for Schiller by September 30, 2017. We explained, however, that a number of potential developments could necessitate these dates being pushed back.

Some of these developments have occurred and we now estimate that we can complete the final permit actions by December 2017.

a) The first problem is this litigation. In our letter, Ex. C, p. 2, we explained that we provided our then estimated timeline for the permits to the Sierra Club, at least in part, because we were:

> hop[ing] to avoid a lawsuit over this because litigation would inevitably further delay issuance of these permits (and the completion of other work as well). New litigation would add yet another time-consuming, high priority project to the existing workload of the managers, attorneys and technical staff assigned to these permits (among other projects). This would divert time and energy from completing the permits.

Of course, the Sierra Club commenced this litigation and now EPA management and staff are, indeed, spending significant time dealing with it (*e.g.*, working to determine EPA's positions on the issues presented by the case, coordinating between EPA Region 1 in Boston and EPA Headquarters in Washington, D.C., coordinating with the Department of Justice, and preparing this declaration and helping with other court papers). This time could otherwise have been spent advancing the permits. Our current proposed target date of December 2017 reflects the commencement of this litigation and assumes that it can be resolved quickly and the Region's focus returned to the permits.

b) Second, we now have a greater sense of certainty that litigation is forthcoming on the Long Island Sound dredged material disposal site designations. In our letter, at p. 7, we stated:

> [a]s with prior schedule estimates, it is impossible to be certain when Region 1 will issue final permits for these two facilities. As always, there are a host of factors that could emerge to alter present schedule estimates. Indeed, one problem is that our lead attorney for this work, Mark Stein, is also the Region's lead attorney on matters under the Marine Protection, Research, and Sanctuaries Act (MPRSA). He has been immersed in a series of high priority matters under the MPRSA in recent months and there is a threat of litigation pertaining to these matters. As a result, we cannot currently be sure about what competing demands will be made for his time in the coming months.

While litigation had been threatened when we wrote the letter, EPA had not yet taken final action and had made some changes to its proposed action that it had hoped might forestall litigation. *See* 81 Fed. Reg. 87834 (adjusted site boundaries). At this time, however, I have been informed that EPA has received a notice of citizens' suit pertaining to the site designation in eastern Long Island Sound, so litigation appears likely. Therefore, our lead attorney for power plant permits is also likely to need to devote significant time to this litigation. We have accounted for that in our present timeline, but the course and demands of any such litigation are unavoidably uncertain at this time. Our timeline does assume that we are able to get adequate legal staff support for final action on the Merrimack and Schiller permits.

c) Third, the same day we sent our September 21, 2016, letter to Sierra Club, Ex. C, we received another substantial FOIA request related to the Merrimack permit. Responding to FOIA requests are always a high priority because of the quick statutory deadlines for such responses. The same legal and

technical staff working on the Merrimack permit are also working to respond to the FOIA request. We have had to account for this in our current estimated schedule.

d) In addition to the points noted above, our current timeline provides some time for EPA to consider and respond to the submission that we expect to receive in January 2017 from PSNH regarding its plan and timetable for complying with the new zero discharge effluent limitation for bottom ash transport wastewater applicable under the 2015 Steam-Electric Effluent Limitation Guidelines.

e) Our current timeline does not, however, provide time for re-noticing the draft Merrimack permit for additional public comment. EPA recognizes, as mentioned farther above, that on December 22, 2016, PSNH requested that Region 1 issue a new Revised Draft Permit for additional public comment. Region. *See* Ex. B. As mentioned below, EPA is currently considering PSNH's request and how to respond to it appropriately.

f) Finally, the elections of November 2016, have resulted in new administrations gaining office both nationally and in New Hampshire. From experience during past transitions, I anticipate that additional time will be needed to brief and gain input from new management about these permit actions (as well as other actions). I also expect that this could have some effect on the pace of our consultations with the State of New Hampshire. Therefore,

we have built some additional time into the schedule to accommodate such briefings.

99) Our current timeline recognizes that the necessary scientific and legal work for these permits will include determining the Best Technology Available for the facilities' cooling water intake structures under CWA § 316(b) and the 2014 CWA § 316(b) Regulations, making decisions about CWA § 316(a) variance applications and otherwise determining how to regulate the facilities' thermal discharges, and setting requirements for the facilities' other pollutant discharges from Merrimack and Schiller, including setting limits for Flue Gas Desulfurizaton wastewater and bottom ash transport water at Merrimack under the 2015 Steam-Electric Guidelines. Our current timeline also provides the anticipated time necessary for completing inter-agency consultations needed to obtain regulatory approvals required for final permit issuance. *See* ¶ 34, above.

100) Pushing these matters any faster than I have outlined here would, I believe, require additional shifting of staff and work priorities in a manner that would interfere with the Region's efforts on other priority matters, or would force permit issuance without adequate analysis.

101) As stated above, and recognizing the uncertainties discussed above, we currently estimate to be able to issue both the Merrimack and Schiller permits by December 31, 2017. We regard Merrimack to be the higher

priority at present and, therefore, currently anticipate issuing it first, but our timetable reserves our discretion to issue Schiller first if that is determined to be appropriate as events unfold.

102) Region 1 regards the reissuance of both the Merrimack and Schiller permits to be environmentally and programmatically important. Reissuing these permits is appropriate as part of the regional and national program for reducing the NPDES permits backlog while focusing on priority permits, at least assuming the facilities are to remain in operation. Indeed, Region 1 has identified to EPA's national Office of Water that the Merrimack and Schiller permits are among the New Hampshire Priority Permits for Fiscal Year 2017. The Region cannot, however, conclude that these two permits are *more important* than our efforts to reissue a new permit for Pilgrim Nuclear. While Pilgrim Nuclear is now planning to close in 2019, a new permit is needed to address the situation prior to, and after, such closure. In addition, as mentioned above, significant public interest continues to be expressed concerning the Pilgrim Nuclear permit, just as it has been with regard to the Merrimack and Schiller permits.

a) All three of these permits have been backlogged for similar lengths of time and all should be reissued as soon as possible, taking into account competing priorities and resource constraints. While the Schiller

permit expired in October 1995, the Merrimack permit expired in June 1997, and the Pilgrim Nuclear permit expired in April 1996.

b) At the same time, it should be remembered that none of these facilities are operating *without* NPDES permits. All have permits that require monitoring and limit pollutant discharges and cooling water withdrawals to levels that were considered appropriately protective at the time the permits were issued.

X. THE NEED FOR PERMIT TIMELINE FLEXIBILITY

103) Region 1 has identified its current estimated timeline for taking final action on the Merrimack and Schiller permits, but it is essential that Region 1 retains flexibility to adjust this timetable, as appropriate, based on the relevant facts and law. Events beyond our control, or new factual, legal or policy considerations, could arise that would necessitate such schedule adjustments. Examples of these sorts of developments are discussed below. Events of all of these types have occurred in my experience working for EPA.

104) First, as discussed above, PSNH recently sent Region 1 a letter requesting that the Region issue a Revised Draft Permit for a new round of public comments for Merrimack. Ex. B. Region 1 is currently considering PSNH's request and how to respond to it. If an additional comment period is held on a new Revised Draft Permit, which would likely result in the submission of a significant new volume of public comments for EPA to

consider and respond to, the estimated date for issuing the final permit for Merrimack would have to be moved back. Because we have regarded Merrimack to be a higher priority than Schiller, such a development could also necessitate moving the date for the final Schiller permit back.

105) Second, EPA needs to remain free to adjust its timetable for these final permit actions in the event that new, presently unforeseen priority actions arise that pull needed staff away onto other projects and necessarily cause slower progress for the Merrimack, Pilgrim Nuclear and/or Schiller permits. For example, after the 2013 Sierra Club litigation, Region 1 determined that it was in the public interest to focus power plant permitting resources on the Northeast Gateway LNG terminal permit. EPA must retain the ability to make resource decisions in the overall public interest, rather than the Sierra Club's particular interests.

106) Third, the Region needs to have the flexibility to monitor, and react appropriately to, developments in PSNH's divestment auction process. For example, if the result of the auction is a timeline for the near-term closure of Merrimack and/or Schiller, Region 1 will have to decide whether and how the priority status and substance of the permits for the facilities should be altered.

107) Fourth, as stated above, Region 1 currently anticipates and has accounted for litigation concerning the Long Island Sound dredged material

disposal site designations, but it is impossible to predict the course of such litigation with certainty. The Region 1 attorney working on this matter is also our lead attorney for power plant permits, and the demands of this litigation could possibly have an effect on the precise timing of our completion of the Merrimack and Schiller permits. Our current timeline assumes adequate legal support is available for these permits, but Region 1 needs to be able to adjust its permitting timeline if necessary to accommodate competing priorities demanding the attention of our limited legal resources.

108) Fifth, other, currently unforeseeable litigation could arise that would require a significant time commitment from Region 1's legal and technical personnel and could interfere with EPA meeting our current schedule for the Merrimack, Pilgrim Nuclear and/or Schiller permits. Sierra Club's prior and current cases are examples of this, as Region 1's legal and technical personnel have been pulled away from permitting work to help respond to these cases. Indeed, if the present case were to result in a court ordered-schedule, we are extremely concerned that it might encourage other similar cases to be filed about other backlogged permits or other matters, which would only add further litigation demands that would slow progress on our permits.

109) Sixth, the schedule for the permits should be sufficiently flexible to allow adjustments if the above-discussed inter-agency consultations (*e.g.*, consultation with NOAA under the Endangered Species Act), take longer than

currently anticipated. Recently, for a number of Region 1 permits, the time necessary for these consultations and approvals has been prolonged and can be largely beyond the control of my office.

110) Seventh, meeting the schedule could also be affected by any Federal Government "shutdowns" or "furloughing" of federal employees that might occur during the course of the schedule. Such a shutdown occurred in 2013, as mentioned in our September 21, 2016, letter to Sierra Club, Ex. C, and this slowed our progress on the permits at issue here. As a related matter, if budget cuts or personnel changes at EPA were to result in a significant loss of key permitting staff or managers, or the loss of expected contractor support, the need to manage competing work priorities could result in schedule delays.

XI. CONCLUSION

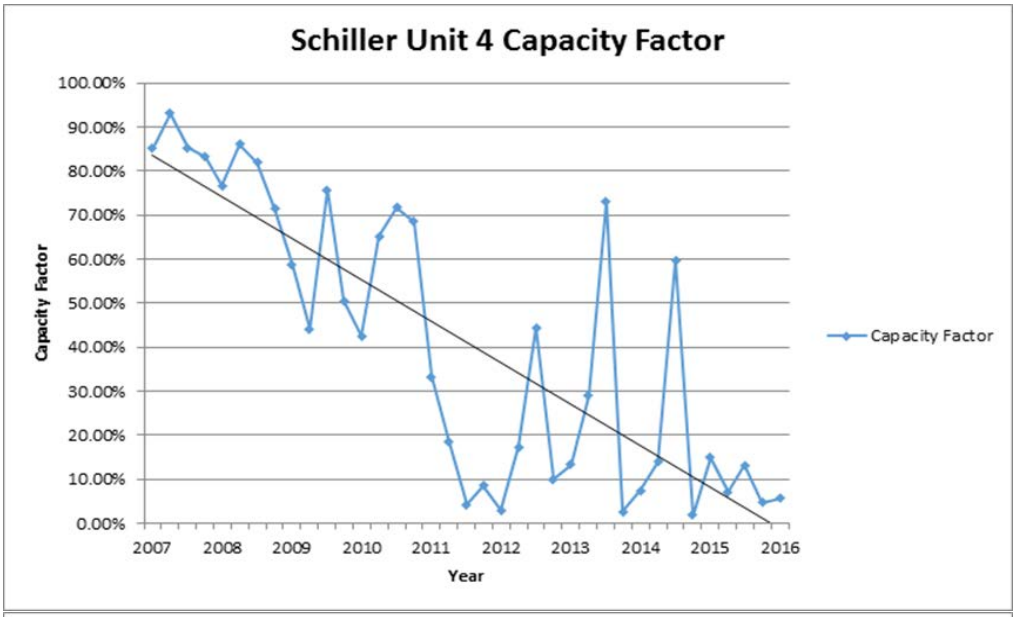
111) In sum, a court-ordered schedule is not needed to get Region 1 to attend to the Merrimack and Schiller permits. These permits are priorities for my office and we have a timetable for issuing them. We also have a good overall track record for issuing permits to power plants, despite the difficulty of this work. That said, these permits are not the only priority matters we are working on and unexpected developments, including new, currently unanticipated priorities, can arise and require adjustments to our schedules for existing work. Therefore, it is essential that EPA timelines for final action on NPDES permits retain flexibility.

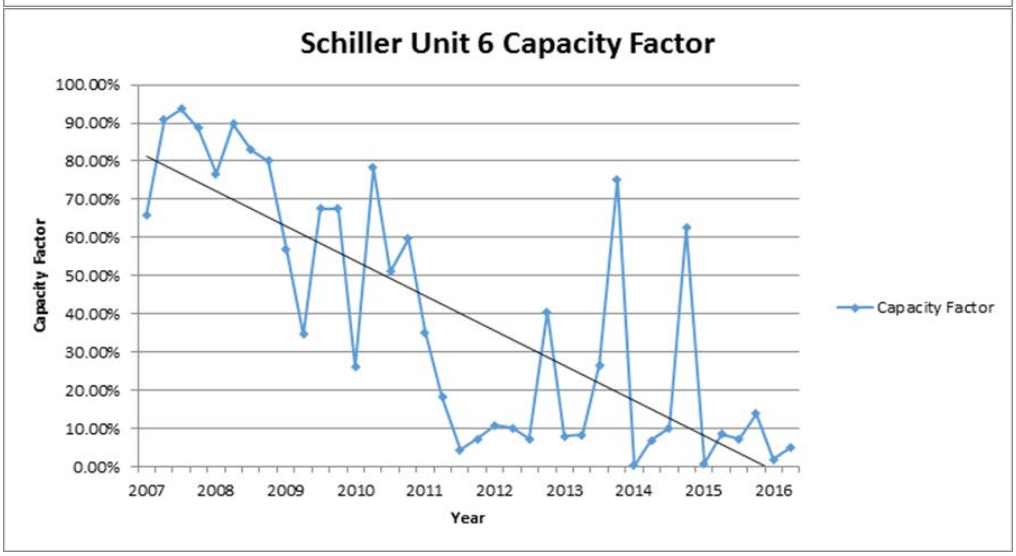
Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 12th day of January, 2017, at Boston, Massachusetts.

David M. Webster, Chief
Water Permits Branch
Office of Ecosystem Protection
US EPA Region 1

EXHIBIT D

SCHILLER STATION CAPACITY FACTOR* INFORMATION



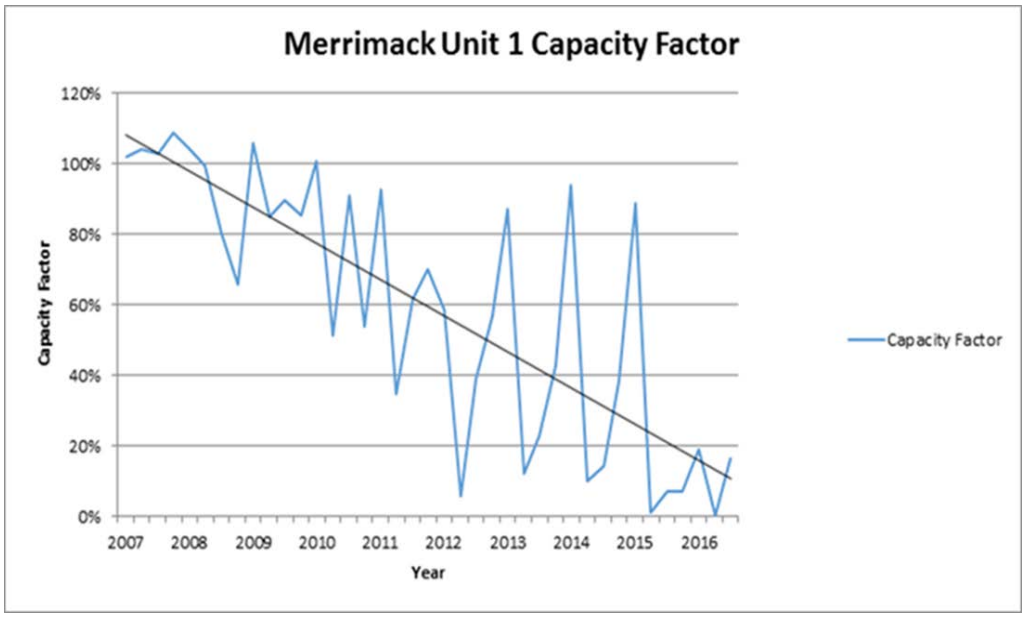


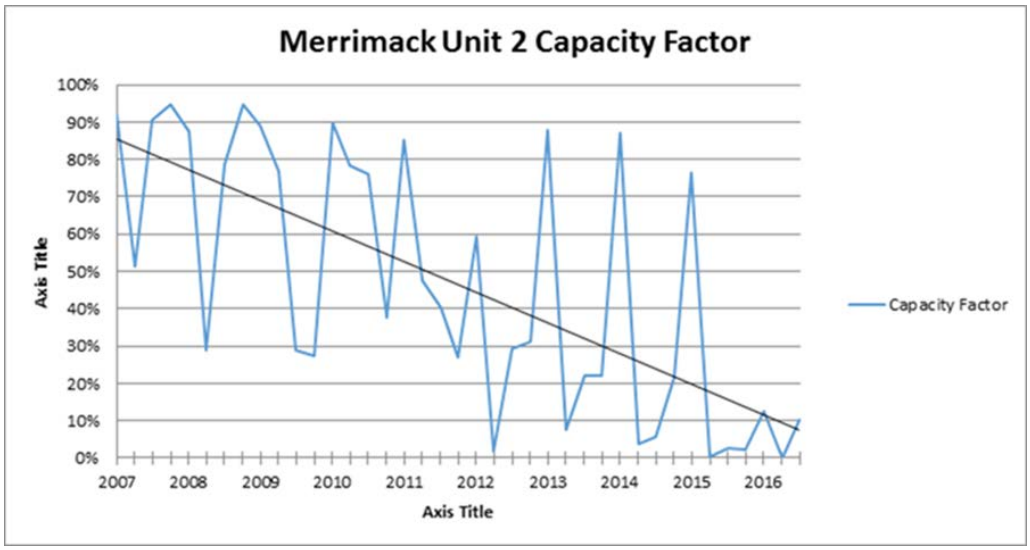
(Source: EPA Clean Air Markets Database and the ISO-NE 2016 CELT Report.)

* **"Capacity factor"** here is defined as the ratio of the actual production of the plant in megawatt-hours (MWh) divided by the potential production of the plant in MWh. The actual production was the quarterly production for each unit in Gross MWh as reported to EPA in the Clean Air Markets Database. The generating potential was calculated by taking the nameplate rating of the unit as referenced in the ISO NE CELT (Capacity Energy Loads and Transmission) report and multiplying it by the number of hours in a Quarter (30 days *3 months *24 hours). The number is then referenced in percentage terms and graphed against the quarter of the year in which it occurred.

EXHIBIT G

MERRIMACK STATION CAPACITY FACTOR* INFORMATION





(Source: EPA Clean Air Markets Database and the ISO-NE 2016 CELT Report.)

* **"Capacity factor"** here is defined as the ratio of the actual production of the plant in megawatt-hours (MWh) divided by the potential production of the plant in MWh. The actual production was the quarterly production for each unit in Gross MWh as reported to EPA in the Clean Air Markets Database. The generating potential was calculated by taking the nameplate rating of the unit as referenced in the ISO NE CELT (Capacity Energy Loads and Transmission) report and multiplying it by the number of hours in a Quarter (30 days *3 months *24 hours). The number is then referenced in percentage terms and graphed against the quarter of the year in which it occurred.