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April 12, 2017

VIA E-MAIL  
VIA FIRST CLASS MAIL

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**Re: Public Service Company of New Hampshire  
Merrimack Station, Bow, New Hampshire  
Draft NPDES Permit No. NH0001465**

Dear Mr. Webster, Attorney Stein, and Mr. Houlihan:

Public Service Company of New Hampshire d/b/a Eversource Energy (“PSNH” or “the Company”) has two purposes in writing this letter specific to the National Pollutant Discharge Elimination System (“NPDES”) permitting process as it relates to Merrimack Station. We ask Region 1 of the Environmental Protection Agency (“EPA” or “the agency”) to give careful consideration to the following requests and the supporting legal bases for those requests.

First, we would like to reiterate our formal request made on December 22, 2016, that EPA issue for public notice and comment a new revised draft (“Revised Draft”) of the NPDES Permit No. NH 0001465 for Merrimack Station. It is our understanding from the Declaration of David Webster (enclosed as Attachment 1), Chief of the Water Permits Branch, filed on January 12, 2017, in response to a petition for a writ of mandamus sought by Sierra Club at the Court of Appeals for the First Circuit, that EPA is considering our request but has not yet reached a decision. See Declaration of David M. Webster in Support of Opposition to Petition for Writ of Mandamus at ¶¶ 18, 98(d) and 104, Appendix to Respondents’ Jan. 12, 2017 Opposition to Petition for Mandamus, *In re Sierra Club*,

No. 16-2415 (1st Cir.) (hereinafter “Webster Decl. ¶ \_\_\_”). The agency’s response to the petition for writ of mandamus is enclosed as Attachment 2.

EPA has been frank in acknowledging the validity of many of the same concerns that are the impetus behind PSNH’s request. See September 21, 2016 letter from Damien Houlihan, Chief, Industrial Permits Section, EPA Region 1 to Mark Kresowik, Sierra Club (providing reasons for delay in issuing the Merrimack Station NPDES final permit) (enclosed as Attachment 3). As Mr. Webster states in his Declaration, “Power plant permits are . . . 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. . . . These legal shifts greatly complicated Region 1’s permitting decisions as analyses under development . . . needed to be adjusted and re-adjusted in response to changing legal requirements.” Webster Decl. at ¶¶ 43, 63.

The new regulations Mr. Webster refers to are directly applicable to Merrimack Station permitting considerations. “As we have worked on the permit, we have had to apply both the new 2014 316(b) Regulations as well as the new 2015 Steam-Electric Effluent Limitation Guidelines [“ELGs”]. . . . Applying these new regulations has further complicated the permitting efforts.” Webster Decl. at ¶ 91(b). PSNH agrees that the new regulations have greatly complicated the permitting process; however, our primary concern is EPA’s application of these new requirements to the final Merrimack Station permit without providing us with the opportunity for notice and comment required by law. See, e.g., *NRDC v. EPA*, 279 F.3d 1180, 1186 (9th Cir.2002); *In re D.C. Water and Sewer Auth.*, NPDES Appeal Nos. 05-02, 07-10, 07-11, 07-12, 2008 EPA App. LEXIS 15, \*112 (EAB March 19, 2008) (indicating that a final permit that is not a “logical outgrowth” of a proposed permit must be subject to public notice and comment).

In his Declaration, Mr. Webster sets out the EPA timeline for issuing the final NPDES permit for Merrimack Station. It includes time needed to consider the implications of the new 316(b) regulations and the ELGs (as stated above), time to evaluate corrected thermal data provided by PSNH to EPA in February 2016 (Webster Decl. at ¶ 91(i)) directly relevant to PSNH’s request for a 316(a) variance, and time to assess PSNH’s proposed plan for complying with bottom ash transport water as required by the ELGs. *Id.* at ¶ 98(d). That list is incomplete, however. There are numerous other important aspects of the permit that need to be considered, and reconsidered, including but not limited to PSNH’s proposal to address entrainment with the installation of wedgewire screens (in contrast to a more costly conversion to closed cycle cooling (“CCC”)) and PSNH’s notification to the agency of its decision to opt into the Voluntary Incentive Program for the treatment of flue gas desulfurization wastewater under the ELGs. Indeed, EPA’s administrative record for this permit proceeding has grown to 1,356 documents.

Yet, despite all this information and EPA’s diligent efforts on this admittedly complex permit, there ironically has been no communication with PSNH, the plant owner and operator. PSNH has had to resort to multiple Freedom of Information (“FOIA”) requests, and while there have been responses to PSNH’s FOIA requests, anything substantive in nature has been redacted and cloaked by the deliberative process privilege. In brief, in the six years that have elapsed since the 2011 draft permit, there has been no feedback on the reports PSNH and its consultants have submitted, no input on agency direction, and no request for discussion with our engineers or environmental experts despite their extensive experience. It defies logic that a permit with such potentially significant cost and operational implications is being drafted without this sort of communication because, in the end, no

one knows Merrimack Station like our people know it. And if the final permit doesn't get it right, there will be no option other than litigation which will take years to resolve. Mr. Webster himself acknowledges in his Declaration that "[r]esolution of a permit appeal can take years." Webster Decl. at ¶ 47. In addition to the possibility of a potential appeal, EPA is now also facing a dramatically changed political landscape with increased scrutiny from newly elected officials who will not tolerate permit requirements that result in exorbitant costs without concomitant benefits.

As a result of all these factors, and those more fully described in our December 22, 2016 letter, PSNH once again requests EPA issue a Revised Draft permit.

The second purpose of this letter is to explain further the enclosed report (Attachment 4) and the significant opportunity it provides PSNH and EPA to agree on a feasible and effective way in which to address entrainment at Merrimack Station. The report, entitled "Wedgewire Screen Confirmatory Study Scope Description" (hereinafter "Study Plan"), outlines CWA 316(b) work Enercon Services, Inc. ("Enercon") and Normandeau Associates ("Normandeau") plan to initiate at Merrimack Station in May 2017. I referred to this report in my December 22, 2016 correspondence and included, as an attachment, Enercon's related December 2016 Wedgewire Half Screen Technical Memo which provided a high-level design description of a wedgewire screen technology that could cost-effectively reduce entrainment for the facility. The enclosed Study Plan describes in detail the specific work which will get underway at Merrimack Station next month to confirm the feasibility and biological efficacy of this technology. We believe this is a viable technological alternative to CCC. It is far less costly and, as the technology has improved in recent years and more has been learned about its exclusionary techniques, it has steadily achieved a record of consistent, cost-effective reductions in entrainment.

We hope EPA will give this study plan the careful consideration it deserves. Related permitting issues comprise one of the primary areas of disagreement between PSNH and the agency; however, at this particular juncture, the agency and PSNH have a rare and limited opportunity to take a step back and to review and reconsider positions put forth in the 2011 draft permit without the pressures and constraints of high-visibility litigation. PSNH respectfully requests EPA review the enclosed Study Plan and timely notify the Company of any objections and/or issues the agency has with any aspect of the Study Plan—including the planned execution of the Plan altogether—as considerable resources will be allocated to complete the work. We make this request not only because of the expedited timeframe for this study but also because this initiative may provide a means to resolve divisive issues related to 316(b).

As stated in previous submittals to the agency, PSNH, Enercon, and Normandeau believe, subject to further testing, wedgewire screens will be a viable, cost-effective solution for satisfying the 316(b) best technology available ("BTA") standard at Merrimack Station. In its 2011 draft permit, EPA utilized its best professional judgment ("BPJ") to require the harshest, most extreme measures possible as BTA for the cooling water intake structures ("CWISs") at Merrimack Station. EPA sought to require PSNH to, among other things, limit the intake flow volume of both CWISs at Merrimack Station to a level consistent with operating in CCC mode from, at a minimum, April 1 through August 31 of each year. PSNH and other interested stakeholders disputed these determinations as arbitrary and capricious in February 2012 comments to the draft permit. And, EPA's 2011 BPJ determination was effectively nullified when the agency issued its final 316(b) regulations on August 15, 2014, as it is well established that the authority to render permit determinations utilizing BPJ authority ceases to

exist once uniform, technology-based standards for a source category have been promulgated. See *e.g.*, *NRDC v. EPA*, 822 F.2d 104, 111 (D.C. Cir. 1987) (noting that a state or permit writer may set limitations utilizing its BPJ authority only when there is no national standard that has been promulgated for a source category); *Riverkeeper, Inc. v. EPA*, 358 F.3d 174, 203 (2d Cir. 2004) (“It is, of course, true that once the EPA promulgates applicable standards, regulation of those facilities subject to those standards on a [BPJ] basis must cease . . . .”); *Citizens Coal Council v. EPA*, 447 F.3d 879, 891 n.11 (6th Cir. 2006) (noting that BPJ applies only when “EPA has not promulgated an applicable guideline”); see also H.R. Rep. No. 92-911, at 126 (1972), *reprinted in* A Legislative History of the Water Pollution Control Act Amendments of 1972 at 813 (1973) (providing that permits with BPJ limits may be issued only “prior to” the promulgation of nationally applicable effluent guidelines).

EPA’s final 316(b) regulations do not mandate use of CCC—seasonally or otherwise. It provides broad flexibility to facilities to comply with the CWA 316(b) BTA standard, including seven pre-approved control technologies from which a facility may choose to satisfy the impingement BTA standard, and an ability to take no additional action if the rate of impingement at the facility is already *de minimis*. For entrainment, BTA is to be decided on a site-specific basis, including a possible determination that no entrainment controls at a facility are necessary. In fact, the final 316(b) regulations require only those facilities with “major cooling water withdrawals” (i.e., average greater than 125 MGD actual intake flow (“AIF”) over the past three years) to submit a robust battery of analyses to permitting authorities as part of the regulatory entrainment mortality assessment because EPA believes it is these facilities that have the highest likelihood of causing adverse entrainment impacts. This policy presupposes that a facility withdrawing less than 125 MGD AIF poses comparatively minimal or no impact to aquatic organisms and thus need not be forced to install costly entrainment compliance controls.

The 3-year average AIF at Merrimack Station is below 125 MGD. PSNH therefore is not obligated to complete any entrainment-related studies delineated in the final 316(b) regulations unless specifically requested by EPA (which has not occurred). Nonetheless, the Company has authorized this entrainment-related work by Enercon and Normandeau to demonstrate that a cost-effective technology suitable for Merrimack Station exists and, conversely, to emphasize the unreasonableness of requiring the installation of CCC at the facility to comply with 316(b).

As mentioned above, a great deal has been learned about the effectiveness of wedgewire screen technologies in the past 5-10 years. Historically, reductions in entrainment mortality for this technology were measured as a function of only physical exclusion attributable to the slot-size of the wedgewire screens. Additional research in recent years has revealed that at least two additional mechanisms play a key role in achieving entrainment mortality reductions with the technology: hydraulic bypass and larval avoidance. Hydraulic bypass is a product of the ratio of a sweeping velocity to the through-slot velocity of the screens. The higher the ratio, the more likely inertia carries otherwise entrainable organisms past wedgewire screens without issue. This phenomenon is optimized by correctly aligning the slot openings of the screens relative to the sweeping flow direction.

Reductions in entrainment due to larval avoidance are unique to wedgewire screen technologies and occur because the screens have a relatively small “zone of hydraulic influence.” The scope of this zone varies depending upon the length of the screen, the through-slot velocity, and the sweeping flow, coupled with the premise that fish larva are capable of swimming fast in short bursts. The zone of hydraulic influence has an inverse relationship with sweeping flow, meaning as the



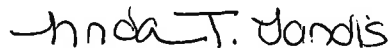
sweeping flow increases, the zone of hydraulic influence will decrease. Given the small size of the zone of hydraulic influence for wedgewire screens, a single short and fast swimming burst is all fish larva often need to escape this zone and avoid becoming entrained. This phenomenon can also be optimized through the correct alignment of the slot openings, as well as by screen slot-size.

The Study Plan sets out to evaluate the following parameters to quantify entrainment reductions and identify the optimal design criteria for a permanent installation of the wedgewire screen technology at Merrimack Station: screen slot width, through-slot velocity, flow dynamic around the screen (including alignment relative to the sweeping flow), and screen elevation within the waterbody. PSNH and its consultants are confident execution of this Study Plan will result in the design for a wedgewire technology solution that is suitable to the site-specific conditions at Merrimack Station, is consistent with the tenets of the final 316(b) regulations, and will provide an environmentally beneficial, cost effective solution to entrainment.

Again, work pursuant to the Study Plan is scheduled to commence next month. We hope EPA will give thoughtful consideration to PSNH's request for: (1) a Revised Draft permit to fully address the dramatic regulatory and technological changes that have occurred in the six years since the 2011 draft permit was issued; and (2) timely feedback on the enclosed Study Plan to evaluate the effectiveness of wedgewire screens in reducing entrainment.

As always, we would welcome a meeting to discuss these issues with the agency.

Very truly yours,



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