SUPER LAW GROUP, LLC

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Via email

Sharon DeMeo
U.S. Environmental Protection Agency – Region 1
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Re: **Merrimack Station, Bow, NH; NPDES Permit No. NH0001465**
Cooling Water Intake Structures

Dear Ms. DeMeo:

We are writing on behalf of Sierra Club and Conservation Law Foundation regarding EPA's process for renewing the NPDES permit for the Merrimack Station in Bow, New Hampshire. This letter concerns cooling water intake structure issues in the permit renewal process.

It has been more than eight years since EPA determined that converting the Station's antiquated once-through cooling system to closed-cycle cooling with the addition of a proper fish return system is necessary to comply with Clean Water Act section 316(b)'s best technology available ("BTA") requirement and New Hampshire water quality standards. We urge EPA to finalize that determination and issue a final NPDES permit containing the same BTA-related requirements that are in the 2011 draft permit (and the 2014 draft permit) without further delay.

If, however, EPA were to not finalize its proposed BTA determination, then the agency would have to comply with several mandatory obligations imposed by the Administrative Procedure Act (APA) and the Clean Water Act (CWA). As described below, EPA must make a BTA determination with every NPDES permit it issues. Such determination must be grounded in evidentiary support in the record. The agency may not issue a NPDES permit that defers – either explicitly or effectively – the BTA determination until additional studies have been completed. And EPA may not deprive the public of its right to participate in permitting, either by putting BTA requirements in a later-developed ancillary document outside of the permit, or by issuing a final permit that is not a logical outgrowth of the draft. Finally, EPA is prohibited from issuing a NPDES permit that allows a permittee to indefinitely or permanently avoid compliance with Section 316(b)'s best-technology requirements.

EXECUTIVE SUMMARY

Merrimack Station's antiquated once-through cooling system withdraws extremely large volumes of water – nearly 200,000 gallons a minute at its peak – from the Merrimack River's Hookset Pool, thereby killing and injuring large numbers of fish, shellfish, and other aquatic organisms.

In 2011, EPA determined that the best technology available ("BTA") for minimizing the adverse environmental impacts of the Station's cooling water intake structures is closed-cycle cooling. After extensive analysis, EPA found that to satisfy Clean Water Act section 316(b) and New Hampshire water quality standards, the Station must convert its once-through cooling system to a closed-cycle cooling system, operate that system from April to August, when the highest densities of aquatic life are present in the river, and add a fish return system. In determining that closed-cycle cooling is BTA for Merrimack, EPA carefully evaluated and specifically rejected wedgewire screens as BTA, due to numerous technical problems and uncertainties as to the feasibility and effectiveness of installing and operating such screens in the Hookset Pool.

In 2014, while making other changes to other aspects of the permit, EPA issued a new draft NPDES permit for the Station containing exactly the same cooling water intake structure requirements as the 2011 draft permit.

In 2017, without issuing a new draft permit, EPA sought public comment on certain questions relating to the 2011 and 2014 draft permits. In particular, EPA stated it had received new information, which raised substantial new questions about the *potential* for fine-mesh wedgewire screens to qualify for BTA at the Station. EPA stated that it was reconsidering wedgewire screens as the *possible* BTA because, in light of new information, the screens *appear potentially capable* of reducing fish kills to a greater degree than previously estimated (but still not to the same degree as closed-cycle cooling) and logistical and engineering concerns *may* be surmountable. The 2017 notice made clear that EPA remained uncertain as to whether wedgewire screens would, in fact, be feasible and effective at Merrimack. EPA did *not*, at that time, change its 2011 determination that closed-cycle cooling is BTA for the Station. EPA stated that it was looking forward to receiving the results of on-site pilot testing that PSNH intended to conduct in the spring/summer of 2017 to investigate the efficacy of wedgewire screen technology. The agency stated it would consider those results and other information in making permitting decisions. As discussed below, the 2017 testing was apparently inconclusive, leading the Station owner to request an opportunity to conduct even more study feasibility and effectiveness.

In 2018, Granite Shore Power (GSP)[1] acquired the Station, fully aware that EPA's 2011 and 2014 draft permits require closed-cycle cooling. Since then, rather than finalizing the NPDES permit, EPA has instead met with GSP frequently to discuss possible changes to the permit. In September 2018, GSP told EPA that not only does the company not want to install closed-cycle cooling, but it is "no longer interested in installing wedgewire screens" (which PSNH proposed as recently as 2017) because they "do not want to spend the money."[2] A year later, in August 2019, GSP told EPA that it was amenable to receiving a NPDES permit with wedgewire screen requirements, but it still wanted an opportunity to consider whether another compliance option might be preferable to the company. Although PSNH had conducted the pilot testing of wedgewire screens in 2017 and submitted the results to EPA, GSP told EPA that the testing was insufficient to determine the feasibility and effectiveness of a wedgewire system and that GSP wants to do additional studies after receiving a final NPDES permit.

GSP appears to be seeking a final NPDES permit that nominally "selects" wedgewire screens at BTA for the Station (despite the absence of sufficient studies on their feasibility and effectiveness) but does not actually require GSP to install wedgewire screens. GSP wants to conduct additional studies after the permit is issued, and then propose to the agency, based on such studies, that it should be allowed to install something other than wedgewire screens, or to do nothing at all, thereby continuing use of its antiquated, destructive once-through cooling system for the life of the Station. What GSP seeks would be unlawful in numerous respects.

EPA should proceed to issue a final NPDES permit for Merrimack Station with cooling water intake structure requirements matching those in EPA's 2011 and 2014 drafts. If EPA and GSP have not been able to determine the feasibility and effectiveness of wedgewire screens in all the years leading up to the 2011 draft permit and the more than eight years since then, the agency should not cause further delays for additional studies of uncertain technologies. Closed-cycle cooling with a fish return system is proven, effective technology that represents BTA for the Station, and EPA should issue a final NPDES permit reflecting that determination.

If, however, EPA were to revise its proposed BTA determination, then the agency would have to comply with several mandatory obligations imposed by the APA and CWA. First, the CWA requires EPA to make a BTA determination as part of each draft or final NPDES permit the agency issues. The law does not allow EPA

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[1] Granite Shore Power LLC and GSP Merrimack LLC are referred to collectively as "GSP."

[2] U.S. EPA, Memorandum Documenting September 20, 2018, Meeting Between EPA and Granite Shore Power Concerning the Merrimack Station NPDES Permit (Oct. 26, 2018) at 7.

to explicitly or effectively defer its BTA determination until the agency has had an opportunity to review additional studies to be submitted after permit issuance. If the agency were to "select" a generic category of technology as BTA without specifying the essential attributes and parameters to be achieved at the permitted facility, and without requiring the permittee to achieve performance meeting those parameters, then there would be no BTA determination at all.

Second, EPA's BTA determination (like all agency decisions) must have adequate supporting evidence in the record, be based on a reasoned determination, and include an explanation that rationally connects the facts found to the choice made. Otherwise, it will be set aside as arbitrary and capricious under the APA. If future studies are still necessary to determine feasibility and effectiveness, then the current record is lacking adequate evidence on those fundamental issues.

Third, NPDES permits must set forth all operative requirements within the four corners of the permit. They may not be structured in a way that allows critical substantive requirements to be developed only after permit issuance by the permittee (with or without agency oversight) and contained in a separate document apart from the permit itself, because that would violate the CWA's and APA's public participation requirements.

Fourth, a permit containing cooling water intake structure requirements similar to those sought by GSP would plainly not be a "logical outgrowth" of the 2011 and 2014 draft permits. Sierra Club and Conservation Law Foundation hereby request, and are legally entitled to, a formal opportunity to review (with the assistance of their technical experts) and submit comments on any new draft permit provisions that are not a logical extension of the prior drafts.

Fifth, and finally, in issuing a NPDES permit, EPA must not only determine which technology is BTA, it must also "require compliance as soon as practicable." Because the deadline for compliance with Section 316(b) has long passed and the Station's NPDES permit is 22 years overdue for renewal, the temporal aspect of compliance is critically important here. A compliance schedule may be used only to allow the permittee a reasonable amount of time to construct and install needed technologies. It must provide a deadline for compliance. A compliance schedule may not be used to gather information for a post-permit-issuance BTA determination. A compliance schedule certainly may not be used to allow a permittee to postpone compliance indefinitely while it develops arguments as to why the permit should be modified to remove the BTA-based requirements it prefers not to spend money to comply with. Relatedly, a compliance schedule should not give a permittee strong incentives to not only delay but also to undermine the feasibility and effectiveness of technologies it does not want to install.

EPA SHOULD ISSUE A FINAL NPDES PERMIT CONSISTENT WITH ITS 2011 BTA DETERMINATION AND THE 2011/2014 DRAFTS, WITHOUT FURTHER DELAY

For the following reasons, we ask that EPA proceed to finalize the cooling water intake structure requirements the agency first issued in draft form in 2011.

A. Merrimack Station's Antiquated Cooling System Kills and Injures the Merrimack River's Aquatic Organisms.

The Merrimack Station, built in the 1960s, utilizes an antiquated, once-through cooling system. Since 2001, virtually all new power plants have been required to have closed-cycle cooling systems.[3] But even before that requirement became law, the power industry was rapidly moving to closed-cycle cooling. Roughly three-quarters of the coal-fired power plants and all of the large combined-cycle power plants built in the 1980s and 1990s have closed-cycle cooling systems.[4] As we enter the third decade of the 21st century, the Merrimack Station still lacks cooling technology that became commonplace in the last quarter of the last century.

The once-through cooling system at Merrimack Station withdraws nearly 200,000 gallons per minute (287 million gallons per day ("MGD")) from the Merrimack River killing and injuring large numbers of fish, shellfish, and other aquatic organisms at all of their life stages in several ways, principally through "entrainment" and "impingement." As EPA has explained, entrainment occurs when very small organisms in the river water, such as fish eggs and larvae, are pulled with the water through the cooling water intake structure's screens and into the cooling system. These organisms are subjected to physical impacts, high water temperatures, pressure changes, and exposure to harmful chemicals, such as chlorine. Impingement occurs when larger aquatic organisms, such as juvenile and adult fish, are caught and held against intake screens. When rotating intake screens are rotated, a fish return system is supposed to safely return the impinged organisms to the water. (This will protect certain, more robust species, but not sensitive species.) At Merrimack Station, however, the fish return does not reach the river and, thus, EPA expects that none of the organisms impinged by the Station can survive.[5]

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[3] 40 C.F.R. § 125.84(b)(1).

[4] 66 Fed. Reg. 28853, 28855-56 (May 25, 2001).

[5] EPA Region 1 - New England, 2011 Fact Sheet, Attachment D, *Clean Water Act NPDES Permitting Determinations for the Thermal Discharge and Cooling Water Intake Structures at Merrimack Station in Bow, New Hampshire, NPDES Permit No. NH 0001465* (hereinafter, "2011 Intake

B. In 2011, EPA Determined that the Station's Antiquated Cooling System Must Be Converted to Closed-Cycle Cooling to Comply with Clean Water Act Section 316(b)'s Best Technology Available Requirement and Issued a Draft NPDES Permit Reflecting that Determination.

In 2011, EPA "determined that significant changes to Merrimack Station's current [cooling water intake structures] are necessary to satisfy CWA § 316(b)'s . . . requirement that the location, construction, design and capacity of the facility's [cooling water intake structures] reflect the Best Technology Available for minimizing adverse environmental impacts (BTA)."[6] Specifically, EPA determined that closed-cycle cooling, operated on a seasonal basis (*i.e.*, from April 1 through August 31, when the highest densities of aquatic life are present), is BTA for the Station. Consistent with that determination, the 2011 Draft Permit included the following requirements:

- The intake flow volume for Units 1 and 2 shall be reduced to a level consistent with operating in a closed-cycle cooling (CCC) mode from, at a minimum, April 1 through August 31 of each year (1.77 MGD for Unit 1, 4.20 MGD for Unit 2);

- During any periods that Units 1 and 2 are operating in an open-cycle mode, new travelling screens (or screen inserts) employing all the features of a modified Ristroph, MultiDisc, or WIP screen design shall be installed and operated for the CWISs. At a minimum, these screens shall have:

    - A mesh size no greater than 3/8-inch using smooth-woven screen mesh to minimize fish de-scaling; and

    - Fish buckets that provide a hydraulically stable "stalled" fluid zone that attracts fish, prevents injury to the fish while in the bucket, and prevents fish from escaping the bucket.

- A low-pressure (<10 psi) spray wash system shall be used for each travelling screen to remove fish prior to high-pressure washing of the screens for debris removal;

Structure Determinations") at iii.

[6] EPA Region 1 - New England, 2011 Fact Sheet, Draft National Pollutant Discharge Elimination System (NPDES) Permit to Discharge to Waters of the United States Pursuant to the Clean Water Act (CWA), NPDES Permit No. NH0001465 ("2011 Fact Sheet") at 52.

- The location of the low-pressure spray systems shall be optimized to transfer fish gently to the return sluice;

- Travelling screens shall be operated continuously;

- A new fish return sluice with the following features shall be installed for each CWIS:

    - Maximum water velocities of 3-5 ft/s within the sluice;
    - A minimum water depth of 4-6 inches at all times;
    - No sharp-radius turns (i.e., no turns greater than 45 degrees);
    - A point of discharge to the river that is slightly below the low water level at all times;
    - A removable cover to prevent access by birds, etc;
    - Escape openings in the removable cover along the portion of the sluice that could potentially be submerged; and
    - A slope not to exceed a 1/16 foot drop per linear foot, unless the plant can demonstrate that this is not feasible.

- The fish return sluice shall be in place and operational at all times.[7]

EPA also found that these intake structure requirements would satisfy New Hampshire's applicable water quality standards and that if they "were made significantly less stringent they would be inconsistent with the state's water quality standards as they would likely interfere with attaining the state's water quality criterion for protecting biological and aquatic community integrity."[8]

Furthermore, EPA specifically determined that an alternate technology, wedgewire screens,[9] was not BTA. In an extended discussion in its 2011 Intake Structures Determinations, EPA identified many issues and many uncertainties that prevent wedgewire screens from being BTA at Merrimack Station, including but not limited to:

- Whether wedgewire screens may be effective or not at a particular facility depends on a variety of factors, including the screen slot size,

[7] 2011 Fact Sheet at 52.

[8] 2011 Intake Structure Determinations at 346.

[9] The term "wedgewire screen" refers to a general category of slotted intake screens consisting of wedge-shaped wire welded to a frame. There is no particular slot width common to all or even most wedgewire screens.

water depths, local hydrodynamics, the relative sizes of the screen mesh and the local organisms, and water withdrawal volumes and velocities.

- Wedgewire screens that have been used or tested at other facilities have had varying degrees of effectiveness.

- There are specific minimum hydrologic and hydrographic conditions that must exist within the waterbody in order for wedgwire screens to operate effectively.

- The performance of wedgewire screens depends on, among other things, the presence of sufficient ambient current to sweep eggs and larvae past the intake screens rather than being drawn into or onto them.

- Minimizing entrainment depends upon the slot width of the screen being small enough to prevent organisms from passing through.

- In particular, EPA stated that "[r]esearch indicates that a slot size of 0.5 mm is likely needed to maximize entrainment reductions and that substantially more entrainment will occur as slot sizes increase to 1.0 mm or larger."

- EPA also expressed concern, based on the in-river configuration of screens presented by PSNH, that the ability of larvae and eggs to survive contact with the screens as they drift downstream is questionable.

- Minimizing impingement depends upon maintaining a low enough intake velocity to allow fish to avoid being trapped against the screens by the force of the water withdrawals.

- Even the slot sizes and velocity are small enough and low enough, adequate ambient sweeping velocity is critical to move the organisms away from the screens, so that they do not end up being impinged on the screens by a combination of forces in the water.

- Adequate ambient sweeping velocity current is also needed to prevent the accumulation of debris ("fouling") on the screen surfaces.

- The fouling of intake screens not only interferes with maintaining adequate withdrawals of cooling water, but also increases the velocity of water passing through unrestricted (unfouled) slots, which can increase impingement or entrainment.

- Yet, as EPA noted, "it is evident that sweeping currents in Hookset Pool are insufficient at critical times."

- PSNH itself expressed concerns about the potential for "frazil ice" (*i.e.*, ice that forms when turbulent water is cooled below the freezing point) to form on the screens and clog the openings.

- Wedgwire screens must also be located in an area with sufficient water depth to enable them to operate effectively.

- Yet, as EPA noted "it is unclear whether adequate water depths exist in Hooksett Pool to accommodate an effective wedgewire screen installation."

- Related issues include whether wedgewire screens would be located in areas where sediment accumulates and must be regularly dredged, whether dredging in and around an area with tightly-packed screens and underground piping is feasible, and whether the screen structures would likely trap branches and other debris drifting downstream.

- As wedgewire screen slot sizes are reduced, the number and size of the array of wedgwire screens increases, as does the potential for fouling of those smaller slots.

- The estimated number of wedgewire screens estimated to be needed at Merrimack ranged from 23 to 76 (depending upon slot width), with each screen over 13 feet in length, forming an array projecting well over 100 feet into the river, which could interfere with the public's use of the river to an excessive degree.

- EPA found that the "number of screens that would be required at Merrimack Station is unprecedent for facilities in the United States."

- EPA also noted that wedgewire screen installations at other facilities have been in waterbodies of very different depth, size, and type than Hooksett Pool, and "[t]he absence of comparable existing wedgwire screen operations raises concerns of the technology's suitability in Hookset Pool."[10]

Based on its extensive analysis of why wedgewire screens would not be feasible or effective in the Hooksett Pool, EPA concluded as follows:

[10] 2011 Intake Structure Determinations at 273-280.

> Having reviewed PSNH's submissions, as well [as] relevant technical and scientific literature, EPA concludes that PNSH's 2009 wedgewire screen proposal would not satisfy the BTA standard of CWA § 316(b) at Merrimack Station. Furthermore, EPA concludes that the rates of entrainment and impingement mortality reduction that the company predicts for its proposal are not supported.[11]
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> [T]he necessary conditions for an effective wedgewire screen installation are not present at Merrimack Station on a consistent and reliable basis during the period when fish eggs and larvae are present. . . . EPA has identified a number of problems that are likely to undermine the effectiveness of wedgewire screens at Merrimack Station and, therefore, EPA rejects this technology as an option for the BTA at this facility.[12]

C. In 2014, EPA Re-Issued the Draft NPDES Permit with No Changes to Any of the Cooling Water Intake Structure Requirements.

Three years later, in 2014, EPA issued a second version of the Merrimack Station's draft permit for public comment (hereinafter, the "2014 Draft Permit"). In the 2014 Draft Permit, EPA determined, based on public comments received during the comment period on 2011 Draft Permit and additional information the agency had gathered since then, that vapor compression evaporation (VCE) technology is the best available technology for the Station's discharges of wastewater from its wet flue-gas desulfurization (FGD) scrubber. EPA thus gave public notice that it was reconsidering and revising particular provisions of the 2011 Draft Permit, specifically the effluent limits and reporting requirements for Outfall 003C at Part I.A.4 and for Outfall 003A at Part I.A.2 of the draft permit.

Significantly, despite having also received substantial comments from PSNH in objection to EPA's 2011 cooling water intake structure determinations, EPA did *not* state in its 2014 public notice, or in the 2014 Draft Permit, or in its fact sheet, that EPA was reconsidering, revising, or reopening any of its cooling water determinations or permit provisions.

Indeed, the 2014 Draft Permit issued for public comment retains all of the cooling water intake structure requirements, based on closed-cycle cooling and improvements to the travelling screens and fish return systems, verbatim from the

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[11] 2011 Intake Structure Determinations at 275.

[12] 2011 Intake Structure Determinations at 280.

2011 Draft Permit.

D. In 2017, EPA Sought Public Comment on "New Questions" Related to Cooling Water Intake Structures, But Did Not Change its BTA Determination and Expressed Continuing Uncertainty About the Feasibility and Effectiveness of Wedgewire Screens in Hooksett Pool.

In 2017, without issuing a new draft permit, EPA reopened the public comment period for the Station's draft NPDES permit with respect to what it called "substantial new questions."[13] Some of these questions related to cooling water intake structures.

First, EPA noted that the agency had promulgated national cooling water intake structure regulations for existing facilities in 2014, after the 2011 and 2014 Draft Permits for the Station were issued for public comment. Among other things, the new regulations (the "2014 CWA § 316(b) Regulations") specify categories of information that applicants for renewed NPDES permits must submit to EPA or a state permit writer. However, the 2014 CWA § 316(b) Regulations also provide that, for ongoing permitting proceedings – like the Merrimack permit renewal proceeding – the permit writer should determine whether the permit application materials already submitted are adequate or should be supplemented by information described in Section 122.21(r) of the regulations. EPA determined that such additional information was unnecessary and would unnecessarily delay the final NPDES permit for the Station:

> EPA has considered whether any of the 40 C.F.R. § 122.21(r) information submissions are necessary for this proceeding and has decided that they are not. *EPA has sufficient information in the record to determine the BTA requirements for the Merrimack Station permit.* EPA has collected this information from PSNH's permit application materials as well as from Company responses to EPA requests for information. . . . In addition, EPA has obtained information from research and analysis by EPA's staff and contractors. Moreover, since issuance of the 2011 Draft Permit, EPA has garnered additional information . . . . In light of all of this information, EPA concludes that it can address the appropriate factors under the statute and regulations without additional information submissions under 40 C.F.R. § 122.21(r). In fact, *directing PSNH to make those submissions now would unnecessarily delay completion of the Final Permit for Merrimack*

[13] EPA Region 1 – New England, Statement of Substantial New Questions for Public Comment, Merrimack Station (NPDES Permit No. NH0001465) (hereinafter "2017 Statement of New Questions").

> *Station.* Therefore, EPA declines to call for new submissions from PSNH under 40 CFR 122.21(r).[14]

Second, EPA stated that it had received new information about the *potential* for wedgewire screens to qualify as BTA at the Station. EPA reiterated in 2017 that its analysis for the 2011 Draft Permit documented "significant uncertainty about the effectiveness of wedgewire screens."[15] EPA then stated that it was "reconsidering wedgewire screens as the *possible* BTA,"[16] but also made clear that, even despite the new information, substantial questions remain about the *possible* or *potential* feasibility and effectiveness of wedgewire screens in Hooksett Pool.[17] For example, EPA again raised the concerns about fouling of wedgewire screens by debris during August due to low flow conditions and in winter due to "frazil ice."[18] And EPA explained that, even if the engineering and other feasibility problems could be surmounted, and even if the performance of wedgewire screens might be "potentially better-than-previously-estimated," "closed-cycle cooling would still be expected to reduce entrainment to a greater degree than wedgewire screens."[19]

EPA did *not*, in 2017, change its 2011 determination that closed-cycle cooling is BTA for the Station. In particular, EPA noted that PSNH informed the agency that it intended to do on-site pilot testing in the spring/summer of 2017 to investigate the efficacy of wedgewire screen technology. EPA stated that it welcomed submission of the data and would consider those results and other information in making permitting decisions.[20] However, as discussed below, although PSNH conducted the testing in 2017, GSP has told EPA that the study was not sufficient and that even more studies are needed to assess the potential

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[14] 2017 Statement of New Questions at 16.

[15] 2017 Statement of New Questions at 18.

[16] 2017 Statement of New Questions at 18.

[17] For example, EPA stated "new information *suggests* that an effective screen array potentially can be implemented . . . and that this technology *may be more effective* . . . than previously thought." "[T]his *suggests* that . . . wedgewire screens *could potentially be viable* . . ." "[N]ew information *suggests* that . . . slot sizes larger than 0.5 mm *may be able* to reduce . . . entrainment . . . more effectively than previously thought." "*It is possible* that . . . the sweeping flow *may be sufficient* to enable a substantial number of eggs and larvae to avoid entrainment." "*[S]ome larvae may* actively avoid entrainment." "[W]edgewire screen technology *appears potentially capable* of reducing entrainment . . . to a greater degree than previously estimated." 2017 Statement of New Questions at 18-19 (emphasis added).

[18] 2017 Statement of New Questions at 20, 22.

[19] 2017 Statement of New Questions at 19-20.

[20] 2017 Statement of New Questions at 20, 29.

feasibility and effectiveness of wedgewire screens in Hooksett Pool.

E. Because EPA Has Ample Record Support for the Feasibility and Effectiveness of Closed-Cycle Cooling as BTA and Lacks Evidence to Support Any Other Technology as BTA, EPA Should Proceed to Finalize its 2011 BTA Determination.

In December 2017, Conservation Law Foundation, Sierra Club, Earthjustice and Environmental Integrity Project submitted comments regarding the cooling water intake structures at Merrimack Station in response to EPA's Statement of New Questions. Those comments stressed that EPA's preliminary BTA determination – that Merrimack Station should achieve reductions in impingement and entrainment equivalent to seasonal use of cooling towers and continual use of rotating screens with an improved fish return system – was sound, supported by record evidence, and should be finalized promptly because it was long overdue.

In contrast, we noted that the permittee's request for more time to demonstrate that wedgewire screens could be used as a complete replacement for cooling towers, was ill considered:

> EPA should not reopen the 2011 BTA determination because the permittee is now proposing to study a new compliance option, wedgewire . . . screens. This determination is long overdue and cannot be further delayed for more studies. . . Overall, the performance of a wedgewire . . . screen system that has not yet been designed, of an unknown slot-width size, in environmental conditions that have not been fully assessed, cannot be considered equivalent to closed-cycle cooling. In contrast, cooling towers are available, proven, and considerably more effective than wedgewire . . . screens at minimizing both entrainment and impingement, as well as thermal discharges. They are the best technology available.[21]

Two years later, little has changed in the record or in the river. Merrimack Station is still running the same fish-killing cooling system that it had in place in 1992, when the NPDES permit was last issued. EPA was required by law to make a BTA determination decades ago, and actually published a draft determination in 2011, nearly a decade ago at this point. EPA reaffirmed that determination in 2014 and took additional comment and reviewed additional studies in 2017. But as discussed above, that additional inquiry did not establish a record that warrants any changes to EPA's long-delayed 2011 BTA determination.

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[21] AR-1573 at 16, 18.

The time for studies is over. Between them, PSNH and GSP have had nearly a decade to research, prepare, and work towards installing more protective cooling water intake technologies based on EPA's 2011 draft BTA determination and the 2014 reaffirmation of that determination. After all those long and illegal years of delay, Merrimack Station's owners still have not assembled evidence that would justify overturning that determination.

The only lawful and reasonable course of action is for EPA to finalize the 2011 BTA determination and require compliance on the shortest possible schedule. As EPA noted in the 2017 Statement of New Questions, EPA's new regulations "require compliance as soon as practicable" with Section 316(b).[22] EPA should impose the schedule of deadlines and milestones for installing closed-cycle cooling that the agency set forth in its 2017 Statement of New Questions.[23]

Accordingly, EPA has built an extensive record in support of the 2011 Draft Permit and the 2014 Draft Permit, has made rational decisions, supplied explanations that connect its decisions to the facts found, and nearly a decade has passed without the Station being directed to upgrade its cooling system as EPA found was necessary to comply with the Clean Water Act and New Hampshire water quality standards. EPA should proceed to issue a final NPDES permit for the Station containing cooling water intake structure requirements matching those in the 2011 Draft Permit and the 2014 Draft Permit.

IF EPA PROPOSES MAKING SIGNIFICANT CHANGES TO THE PERMIT'S COOLING WATER INTAKE STRUCTURE PROVISIONS, THE AGENCY MUST COMPLY WITH MANDATORY LEGAL REQUIREMENTS

As discussed above, EPA should proceed to issue a final NPDES permit for the Station, containing the cooling water intake structure provisions that are in the 2011 Draft Permit and the 2014 Draft Permit. However, if EPA is considering taking the permit in a different direction, the agency must: (i) make a BTA determination; (ii) avoid making an arbitrary and capricious BTA determination; (iii) include all substantive requirements for location, design, construction and capacity of the cooling water intake structures in the permit itself; (iv) allow public comment on the new proposal; and (v) not allow GSP to indefinitely or permanently avoid compliance with Section 316(b)'s BTA mandate by using a compliance schedule to conduct more studies and then seek a modification of the permit's BTA-related requirements that the company prefers not to spend money to comply with.

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[22] 2017 Statement of New Questions at 23.

[23] 2017 Statement of New Questions at 27-28.

A. Since it Bought the Station in 2018, GSP and EPA Have Met Frequently and Discussed Possible Changes to the Permit's Cooling Water Intake Structure Requirements.

Documents provided by EPA under the Freedom of Information Act indicate that, since GSP acquired the Station in 2018, GSP and EPA have met frequently – at least five times in person over the past fifteen months, as well as in numerous phone calls – to discuss the cooling water intake structure requirements (and other issues) in the Merrimack NPDES permit. It is becoming readily apparent that GSP not only wants to avoid installing closed-cycle cooling, but it also wants to avoid installing the wedgewire screen system proposed by PSNH as recently as 2017. Indeed, it appears that GSP's goal is to secure a final NPDES permit that will ultimately not require any changes to Station's antiquated once-through cooling system and intake structures.

In September 2018, GSP told EPA that it is "no longer interested in installing wedgewire screens" because they "do not want to spend the money."[24] Although GSP told EPA a year later (in August 2019) that it was now "likely amenable to a permit with wedgewire screen requirements,"[25] GSP also made clear that what it actually wants is for EPA to nominally select wedgewire screens as BTA without specifying in the permit what the slot size should be, when the screens must be operated, what level of effectiveness the screens must achieve, or when they must be installed. Instead, GSP has told EPA that it is seeking a permit containing a "two-stage compliance schedule." That is, GSP wants, an extended period of time after the final NPDES permits is issued "to study screen feasibility and effectiveness."[26] And, then, GSP wants a second, subsequent period of time to "select and implement [an] option for achieving similar effectiveness [to wedgewire screens, if deemed feasible and effective in the studies to be conducted]."[27] Specifically, GSP has asked EPA for a compliance schedule that "would allow the Permittee to recommend a specific slot-size for the screens for its final design."[28]

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[24] U.S. EPA, Memorandum Documenting September 20, 2018, Meeting Between EPA and Granite Shore Power Concerning the Merrimack Station NPDES Permit (Oct. 26, 2018) at 7.

[25] U.S. EPA, Memorandum Documenting August 19, 2019, Meeting Between EPA and Granite Shore Power Concerning the Merrimack Station NPDES Permit (Sept. 8, 2019) at 2.

[26] GSP, "Merrimack NPDES Permit" – Open Items," (undated), provided to EPA Region 1 on September 10, 2019.

[27] GSP, "Merrimack NPDES Permit" – Open Items," (undated), provided to EPA Region 1 on September 10, 2019.

[28] U.S. EPA, Memorandum Documenting August 19, 2019, Meeting Between EPA and Granite Shore

GSP told EPA that it wanted to be given this extra time after the final NPDES permit is issued in order to study wedgewire screen "feasibility and effectiveness" – even though PSNH had already done pilot testing in the Merrimack River – because GSP believes that it has only "in essence, 'one data point' from that single study and it want[s] to do some additional work to develop a more robust estimate of site-specific wedgewire screen effectiveness to provide a well-supported target effectiveness for the compliance approach to be applied to satisfy CWA § 316(b)."[29] Thus, in GSP's own words, there is not yet sufficient, robust, or well-supported data on the effectiveness of wedgewire screens in the Hooksett Pool.

Furthermore, GSP has made clear that it is requesting a lengthy, two-step compliance schedule not merely to give the company time to complete a final design and install wedgewire screens, but rather to give the company "an opportunity to consider whether another compliance option might be preferable," at which time there might be a "modification of the permit to incorporate the new requirements."[30] Thus, GSP is seeking a permit containing a compliance schedule that allows GSP to propose altogether different permit requirements.

What GSP is seeking would not be legally valid under the CWA or the APA.

B. EPA May Not Issue a NPDES Permit that Defers a BTA Decision Until Further Studies Are Conducted.

Under federal law, EPA cannot lawfully re-issue a NPDES permit without making a BTA determination – that is, without first determining which technology is the best available for minimizing the adverse environmental impact of its cooling water intake structures. Likewise, the agency may not issue a NPDES permit that does not require a level of protection for aquatic life that is consistent with the use of the technology that EPA has determined to be BTA. Deferring either the determination of BTA or the establishment of permit requirements reflecting that determination would violate several provisions of the Clean Water Act and its regulations.

To begin with, Section 316(b) requires EPA to make a BTA determination

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Power Concerning the Merrimack Station NPDES Permit (Sept. 8, 2019) at 3.

[29] U.S. EPA, File Memorandum, Notes on October 1, 2019, Telephone Conference Call Between EPA Region 1 and Granite Shore Power, LLC (Oct. 7, 2019) at 3.

[30] U.S. EPA, Memorandum Documenting August 19, 2019, Meeting Between EPA and Granite Shore Power Concerning the Merrimack Station NPDES Permit (Sept. 8, 2019) at 2.

every time it issues a NPDES permit. Section 316(b) imposes a mandatory, enforceable, time-limited duty on EPA to implement the requirements of that section within the time limits set forth in CWA sections 301 and 306.[31] For existing facilities, the deadline for complying with BTA was March 31, 1989. As EPA's general counsel explained in 1976, "[i]nsofar as neither § 316(b) nor the regulations thereunder specify a time limitation for the application of best technology available, the ultimate compliance date under § 316(b) is governed only by § 301(b)(2)(A) which requires compliance not later than July 1, 1983,"[32] which Congress later extended to March 31, 1989.[33] This 1989 deadline is absolute, and permit writers are without authority to grant an extension in NPDES permits of the Act's time limits for the imposition of technology-based standards.[34] In addition to the statutory obligation to make a BTA determination, EPA's 2014 § 316(b) Regulations provide that, for any permit issued after July 14, 2018, EPA must include permit conditions to implement and ensure compliance with the regulation's entrainment and impingement mortality standards.[35]

In addition to Section 316(b), Section 402 also forbids issuing a NPDES permit without a BTA determination. Section 402(a)(1)(A) authorizes EPA to issue NPDES permits for point source discharges "on condition that such discharge will meet … all applicable requirements under sections [301 and 306]," one of which is Section 316(b)'s requirement that cooling water intake structures reflect BTA.[36] NPDES permits are issued to point sources,[37] which are defined as "conveyances … from which pollutants are or may be discharged,"[38] and Section 316(b) expressly

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[31] *See Cronin v. Browner*, 898 F.Supp. 1052, 1059 (S.D.N.Y. 1995).

[32] *In Re Brunswick Steam Electric Plant*, U.S. EPA, Decision of the General Counsel, EPA GCO 41 (June 1, 1976).

[33] CWA § 301(b)(2); 33 U.S.C. § 1311(b)(2).

[34] *See, e.g., Bethlehem Steel Corp. v. Train*, 544 F.2d 657, 663 (3rd Cir. 1976) *cert. denied* 430 U.S. 975 (1977); *United States v. Hoboken*, 675 F. Supp. 189, 194 (D.N.J. 1987) ("EPA had no authority to extend secondary-treatment standard deadlines beyond July 1, 1983"); *State Water Control Bd. v. Train*, 559 F.2d 921, 925 (4th Cir. 1977) ("the legislative history indicates that Congress viewed it as an inflexible target") (quoting *Bethlehem Steel*, 544 F.2d at 661)..

[35] 40 C.F.R. § 125.98(b)(2).

[36] 33 U.S.C. § 1342(a)(1)(A).

[37] Section 402(a)(1) states that permits are issued "for the discharge of [a] pollutant," which is in turn defined as the addition of a pollutant to the waters "from [a] point source." 33 U.S.C. § 1362(12).

[38] *Id.* § 1362(14).

applies BTA requirements to "point source[s]." One of the requirements on which a point source's *discharge* to the surface waters must be conditioned, then, is that its *intake* of those waters for cooling be done in accordance with Section 316(b). If it does not, that discharge does not "meet … all applicable requirements" of Section 301 or 306. Further, Section 402(b) provides a detailed list of the provisions a permit must contain. Included among these is the mandate that such permits "apply, and insure compliance with, any applicable requirements" of Sections 301 and 306.[39] Accordingly, Section 402 prohibits the issuance of a NPDES permit that does not condition the discharge on compliance with Section 316(b).

Indeed, EPA Region 1 has admitted that "[Section] 316(b) determinations *must be revisited with each permit reissuance*. Permit conditions imposed under § 316(b) *must satisfy the statute* and may be based either on applicable regulatory guidelines or, in their absence, on case-by-case Best Professional Judgment (BPJ) determinations."[40] EPA is thus required to compel adherence to the CWA's "best technology available" standard every time it issues a NPDES permit for a point source with an intake structure. In other words, there is no authority allowing EPA to issue a NPDES permit that defers the Section 316(b) BTA determination.

Here, as noted above, GSP is apparently suggesting to EPA that the agency issue a final NPDES permit that nominally selects "wedgewire screens" as BTA, but does not determine what the slot size must be. However, there is no universally accepted definition or standard for the slot size of a wedgewire screen. As discussed above, the slot-size is a critical parameter. All else being equal, smaller slot sizes increase intake velocities leading to increased impingement and entrainment as well as fouling, and also increase the size of the screen array and the interference with the use of the river. Larger slot sizes can increase entrainment because smaller organisms will pass through the screen's mesh. The engineering of wedgewire screen's slot size is critical to feasibility and effectiveness.

Consequently, in the absence of determining the slot size for a wedgwire screen, EPA will not know if the screen system will be feasible or effective. Likewise, without specifying exactly when the screens must be operated, or what level of effectiveness the screens must achieve, or when they must be installed, EPA would not have made a BTA determination in the permit at all, but would be unlawfully deferring that determination until a later time. (In stark contrast, when

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[39] *Id.* § 1342(b)(1)(A).

[40] U.S. EPA – New England, Clean Water Act NPDES Permitting Determinations for Thermal Discharge and Cooling Water Intake from Brayton Point Station in Somerset, MA (July 22, 2002) at § 7.2.2 (emphasis added).

EPA made its 2011 BTA determination, it included in the draft permit specific numeric requirements for each parameter, such as the maximum volume of cooling water that may be withdrawn, during specified months, and the velocity and other features of the fish return system.[41]) Further, without including a deadline in the permit for when compliance with specified BTA standards must be achieved, EPA would not be requiring the permittee to comply with BTA. That would be illegal under the CWA and would not survive judicial review.

C. EPA's BTA Determinations Must Be Supported by Record Evidence, a Rational Basis, and an Explanation that Logically Connects the New Decisions Made to the Facts Found.

As with any administrative decisionmaking by a federal agency, EPA's Section 316(b) BTA determintions must conform to the APA and be based on "reasoned decisionmaking."[42] "Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational."[43] A court must reject an agency decision that, *inter alia*, is based on explanation "that runs counter to the evidence before the agency" or lacks "a satisfactory explanation . . . including a rational connection between the facts found and the choice made."[44]

When EPA preliminarily determined, in 2011, that BTA for the Station was closed-cycle cooling with a fish return system, and that less stringent requirements would fail to comply with either Section 316(b) or New Hampshire water quality standards, the agency did so based on an extensive record and its own independent analysis of data supplied by the applicant. EPA supplied a detailed explanation of its process and its reasoning, including a rational connection between the facts found and the choice made. In 2014 and in 2017, EPA issued new public notices relating to aspects of the Station's NPDES permit, but did not change its BTA determination.

If EPA were to change its 2011 BTA determination, the APA would require the agency to explain how the extensive record that supported its 2011 conclusions, plus any new information obtained since then, will support any new conclusions. In

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[41] *See* bullet points on pages __, above.

[42] *See Allentown Mack Sales & Serv. v. NLRB*, 522 U.S. 359, 374 (1998) (quoting *Motor Vehicle Mfrs. Ass'n of the United States, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 52 (1983)).

[43] *Id.*

[44] *Grosso v. Surface Transp. Bd.*, 804 F.3d 110, 116 (1st Cir. 2015) (quoting *State Farm*, 463 U.S. at 43); *see also Southcoast Hosps. Grp., Inc. v. NLRB*, 846 F.3d 448, 453 (1st Cir. 2017).

particular, EPA could not finalize a decision that wedgewire screens are "available," and, indeed, the "best technology available," before the evidence needed to support such a conclusion is collected. It would be arbitrary, capricious, and an abuse of discretion for EPA to select wedgewire screens over cooling towers as BTA when the permittee has indicated that it is not yet possible to conclude that wedgewire screens would be feasible and effective or to determine the slot size, level of effectiveness, or other parameters. In the absence of supporting record evidence, a rational basis, and an explanation logically connecting the decisions to the facts, agency action will be held unlawful and set aside as arbitrary and capricious under the APA.[45]

Or, if EPA were to issue a final NPDES permit that not only selects wedgewire screens as BTA, but also contains detailed requirements as to the required slot size, the dates on which the screens must be operated, the area of river that the screens may occupy, the level of effectiveness that the screens must achieve, and all other necessary parameters, including a deadline for installing the screens and having them fully operational, then EPA must have sufficient evidentiary support in the record and a reasoned explanation logically connecting all of those newly-made decisions to the evidence. But EPA does not have the evidence necessary to make those decisions for wedgewire screens. As GSP itself maintains, additional studies on the feasibility and effectiveness of wedgewire screens in the Hooksett Pool are needed to have a well-supported basis for determining their slot size and effectiveness

Similarly, EPA continues to lack needed information about whether ambient velocities in the Hooksett Pool are adequate to create sufficient sweeping flows for wedgewire screens to function and whether there will be adequate water depth. Indeed, the answers to these questions cannot definitively be determined given the hydrology and hydrography of Hooksett Pool, which is an impoundment between two dams, the Garvins Falls Dam to the north and the Hooksett Dam to the south. Water volume and velocity in the Hooksett Pool is dependent on release rates of the upstream and downstream dams. But these dams are managed for multiple purposes, and releases are not optimized to provide the desired velocities or depths near Merrimack Station. The ambient flow in the river is not guaranteed to meet Merrimack's needs for adequate sweeping velocities. In other words, operational effectiveness of wedgewire screens is entirely dependent on river conditions that the Station cannot control. There may be needs of other users, for power, storage, water level maintenance, or other purposes that render wedgewire screens highly ineffective despite any potential they may have for use at other locations.

Accordingly, there is not an adequate basis in the record on which EPA could

[45] 5 U.S.C. § 706(2)(a).

base a determination that wedgewire screens are BTA for Merrimack Station.

D. EPA May Not Issue a NPDES Permit that Allows Material BTA Requirements to Be Developed After the Fact and Contained Only in a Separate, Non-Permit Document.

As the federal courts have held, when issuing a NPDES permit, EPA must include all of the effluent limitations and other discharge-related limitations in the permit itself. EPA may not issue a NPDES permit with a provision allowing critical substantive requirements to be developed by the permittee at a later time (with or without EPA oversight and approval) and contained only in some other document, outside the permit, because that would violate, among other things, the CWA and APA's public participation requirements.

For example, in *Waterkeeper Alliance, Inc. v. United States EPA*,[46] the United States Court of Appeals for the Second Circuit remanded an EPA regulation that would have allowed NPDES permits for concentrated animal feeding operations to omit critical aspects of the operations' pollution control requirements, which would instead be developed by the permittees and contained in a separate nutrient management plan. The court explained at length that this was illegal for various reasons:

> [T]he permitting scheme established [by EPA] . . . violates the Clean Water Act's public participation requirements and is otherwise arbitrary and capricious under the Administrative Procedure Act.
>
> Congress clearly intended to guarantee the public a meaningful role in the implementation of the Clean Water Act. The Act unequivocally and broadly declares, for example, that "public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this Act shall be provided for, encouraged, and assisted by the Administrator and the States." 33 U.S.C. § 1251(e). Consistent with this demand, the Act further provides that there be an "opportunity for public hearing" before any NPDES permit issues, see 33 U.S.C. §§ 1342(a), 1342 (b)(3); that a "copy of each permit application and each permit issued under this section [1342] shall be available to the public," see 33 U.S.C. § 1342(j); and that "any citizen" may bring a civil suit for violations of the Act, see 33 U.S.C. § 1365(a).

[46] 399 F.3d 486 (2d Cir. 2005).

> The . . . Rule deprives the public of the opportunity for the sort of regulatory participation that the Act guarantees because the Rule effectively shields the nutrient management plans from public scrutiny and comment [by] fail[ing] to require that the terms of the nutrient management plans be included in the NPDES permits . . .
>
> This scheme violates the Act's public participation requirements in a number of respects. First and foremost, in light of our holding that the terms of the nutrient management plans constitute effluent limitations that should have been included in NPDES permits, the . . . Rule deprives the public of its right to assist in the "development, revision, and enforcement of . . . [an] effluent limitation." 33 U.S.C. § 1251(e) (emphasis added). More specifically, the . . . Rule prevents the public from calling for a hearing about – and then meaningfully commenting on – NPDES permits before they issue. See 33 U.S.C. §§ 1342(a), 1342 (b)(3). The . . . Rule also impermissibly compromises the public's ability to bring citizen-suits, a "proven enforcement tool" that "Congress intended [to be used . . .] to both spur and supplement government enforcement actions." Clean Water Act Amendments of 1985, Senate Environment and Public Works Comm., S. Rep. No. 50, 99th Cong., 1st Sess. 28 (1985). Under the . . . Rule, as written, citizens would be limited to enforcing the mere requirement to develop a nutrient management plan, but would be without means to enforce the terms of the nutrient management plans . . . This is unacceptable.
>
> And even assuming, arguendo, that the nutrient management plans did not themselves constitute effluent limitations, we would still hold that the . . . Rule violates the Act's public participation requirements. Nutrient management plans are . . . a critical indispensable feature . . . a sine qua non of the "regulation, standard, plan, or program" . . .
>
> Given that the . . . Rule forestalls – rather than "provides for, encourages, and assist[s]" – public participation in the development and enforcement of nutrient management plans, and given that nutrient management plans are an important "regulation, standard, effluent limitation, plan or program" established by the EPA to regulate . . . discharges, the . . . Rule violates the plain dictates of 33 U.S.C. § 1251(e).[47]

The structure of the NPDES permit that GSP is apparently seeking here for Merrimack Station would run afoul of all the legal dictates articulated by the Court

[47] 399 F.3d at 503-04.

of Appeals in that case. For example, like effluent limitations the BTA requirements are required to be in every NPDES permit that EPA issues to a facility that has a cooling water intake structure.[48] If EPA does not specify in the permit the slot size, the required operational dates, the size and location of the screen array, the degree of effectiveness in reducing impingement and entrainment, when the screens must be installed, and other important parameters but instead leaves the permittee to later propose a plan for these terms, then permit is missing key elements. These are all "critical indispensable features" of BTA requirements based on wedgewire screens.

Further, if EPA were to issue a NPDES permit that leaves out these critical elements, it would violate the public's guaranteed rights of public participation. Whether commenting on a draft permit, appealing a final permit, or enforcing a final permit – all of which Congress included as important procedural safeguards in the CWA – the public would be deprived of the opportunity to review, comment on, appeal, or enforce critical components of the permit's BTA requirements, because they would not be in the permit and not available because they would not yet have been developed. They would be only in separate reports to be prepared later by the permittee or in subsequent correspondence between the permittee and EPA. This is unacceptable.

For all of these reasons, too, EPA should not issue a NPDES permit like that requested by GSP.

E. A NPDES Permit Determining that Wedgewire Screens Are BTA, or a Permit Containing the Approach to BTA Sought by GSP, Would Not Be a Logical Outgrowth of the 2011 Draft Permit.

As EPA is well aware, the APA, EPA's regulations, the federal courts, and EPA's Environmental Appeals Board (EAB) all require that a final permit issued by EPA must be a "logical outgrowth" of the draft permit; otherwise, EPA would have failed to give proper notice and allow the public the legally required opportunity for public comment.[49]

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[48] *See* discussion associated with footnotes __ to __, on pages __ to __, above.

[49] 5 U.S.C. § 553(b), (c); 40 C.F.R. §§ 124.6(d), 124.10(a)(1)(ii). The first judicial decision using the "logical outgrowth" language was a First Circuit case involving an EPA air quality transportation control plan for the Boston area. *South Terminal Corp. v. EPA*, 504 F.2d 646, 659 (1st Cir. 1974). *See also, 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) (holding that "new language in the Final [NPDES] Permit was not a logical outgrowth of the language in the previous draft and, accordingly, [Friends of the Earth and Sierra Club] were denied the opportunity to provide meaningful comments," and remanding the permit to EPA Region 3).

Although EPA has issued two draft permits for public comment (in 2011 and 2014) and has sought comment on "significant new questions" (in 2017), a new determination that wedgewire screens are now BTA would not be a logical outgrowth of the draft permits. Nor would a permit that makes a nominal selection of BTA and leaves the selection of the critical parameters to later determination based on future studies of feasibility and effectiveness.

As explained above, the record does not support any change to EPA's BTA 2011 determination. If EPA were to obtain further new data that would support a change in that determination, such material and EPA's supporting rationale must be subjected to public comment. Sierra Club and Conservation Law Foundation request an opportunity to engage technical experts to review the permit provisions and EPA's supporting rationale for any changes to the 2011 BTA determination them and to submit comments based on their evaluation.

In 2016 and 2017, when PSNH wanted EPA to change its BTA determination from closed-cycle cooling to wedgewire screens, the company told the agency that, in light of the 2014 § 316(b) Regulations and the new technical information submitted to EPA, a revised permit would not be a "logical outgrowth" of the draft permits and that, under the APA as well as EAB and judicial precedent, EPA would be obligated to issue a Revised Draft Permit for public comment.[50]

In the final analysis, EPA has two choices under the law – it can proceed to finalize a NPDES permit that is similar enough to the 2011 and 2014 draft permits that it is a "logical outgrowth," or, if EPA proposes to make dramatic changes like those sought by GSP, then the agency must subject that new permit to public notice and public comment as the company itself requested.

F. Compliance with BTA Is Long Overdue at Merrimack Station. A "Compliance Schedule" Cannot Be Used to Allow GSP to Undo the BTA Determination in the Permit and Avoid Ever Having to Comply with BTA.

Finally, in issuing a NPDES permit EPA must not only determine which technology is BTA, it must also "require compliance as soon as practicable."[51] Because the deadline for compliance with Section 316(b) has long passed and the

[50] Letter from Eversource Energy to U.S. Environmental Protection Agency – Region 1 (Dec. 22, 2016) (AR-1352) at 7-8; Letter from Eversource Energy to U.S. Environmental Protection Agency – Region 1 (Apr. 12, 2017) (AR-1357) at 2.

[51] 40 CFR § 125.94(b).

Station's NPDES permit is 22 years overdue for renewal, the temporal aspect of compliance is critically important here. A compliance schedule may be used only to allow the permittee a reasonable amount of time to construct and install needed technologies. Further, it must provide a deadline for compliance. A compliance schedule may not be used to gather information for a post-permit-issuance BTA determination. And a compliance schedule certainly may not be used to allow a permittee to postpone compliance indefinitely while it develops arguments as to why the permit should be modified to remove the BTA-based requirements it prefers not to spend money to comply with.

Under the CWA and EPA's regulations, compliance schedules are never available simply to give an agency time to make a permitting decision. The CWA defines "schedule of compliance" as a schedule of "*remedial measures* including an enforceable sequence of actions or operations leading to *compliance* with an effluent limitation, other limitation, prohibition, or standard."[52] Thus, "any compliance schedule contained in an NPDES permit *must include an enforceable final effluent limitation*."[53] In other words, "in order to grant a compliance schedule in an NPDES permit, the permitting authority has to make a reasonable finding, adequately supported by the administrative record, that the compliance schedule 'will lead[] to compliance with a … limitation' … 'by the end of the compliance schedule.'"[54] EPA's guidance makes crystal clear that compliance schedules (where they are otherwise permissible) may only be used to allow the permitee time to add the equipment necessary to meet the operational conditions established in the permit, not to give the regulator time to develop those conditions in the first place: "a compliance schedule based solely on time needed to develop a site specific criterion" for NPDES permits "is not appropriate."[55]

As EPA's general counsel stated in the cooling water context, "a compliance schedule under the § 316(b) regulations must take into consideration the time necessary to implement the appropriate technology at a given intake structure,"[56]

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[52] CWA § 502(17); 33 U.S.C. § 1362(17) (emphasis added); *see also* 40 C.F.R § 122.2; U.S. EPA, *Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits*, May 10, 2007 memorandum from EPA Headquarters ("May 10, 2007 EPA Guidance") at 2, ¶ 2.

[53] May 10, 2007 EPA Guidance at 2, ¶ 3 (citing CWA §§ 301(b)(1)(C) and 502(17); *Star-Kist Caribe, Inc.* 3 E.A.D. 172, 175, 177-178 (1990); 40 C.F.R. §§ 122.2, 122.44(d), and 122.44(d)(I)(vii)(A)).

[54] *Id*. at 2, ¶ 5 (citing CWA §§ 301(b)(I)(C) and 502(17); 40 C.F.R. §§ 122.2, 122.44(d)(1)(vii)(A)).

[55] May 10, 2007 EPA Guidance at 3, ¶ 11. Likewise, compliance schedules are not appropriate to allow time to develop a Total Maximum Daily Load (TMDL) or a Use Attainability Analysis (UAA). *Id*. at 3, ¶¶ 10, 11.

[56] *In Re Brunswick Steam Electric Plant*, U.S. EPA, Decision of the General Counsel, EPA GCO 41

and thus relevant factors are "whether there is any need for modifications to treatment facilities, operations or measures," "the steps needed to modify [them] and the time those steps would take."[57] Thus, it is improper to use a compliance schedule for gathering information to be used by EPA to determine or establish a BTA limitation that should have been in the permit in the first place.

If EPA were to need more information to make a BTA determination, it would have to obtain that information *before* making the determination; it cannot use a compliance schedule in the permit to do so. But EPA is out of time to collect more studies. As EPA acknowledged again in 2017, "the statutory deadline for compliance with the BTA standard of CWA § 316(b) ha[s] already passed."[58] Indeed, it passed decades ago. EPA must renew this permit now, and the renewal must include a BTA determination.[59] EPA's regulations do not require Region 1 to reopen its 2011 draft BTA determination, nor do they provide incentive or justification for doing so. To the contrary, the regulations authorize Region 1 to finalize the determination it made in 2011. As noted above, EPA determined in 2017 that, given that this is an "ongoing permitting proceeding" with extensive information already having been collected and analyzed by the agency, it is not necessary for the application to be supplemented by the information described in Section 122.21 of the 2014 § 316(b) Regulations.[60] If EPA has the information it needs to make a BTA determination, then there is no reason to conduct further studies. If EPA were to believe that further studies are needed to determine key parameters of the BTA for Merrimack Station, then the agency would have to use CWA section 308 request to obtain such studies before making a permitting decision, rather than making a BTA determination and using a compliance schedule in the permit to obtain such studies after the fact.

Moreover, apart from the improper use of a compliance schedule to gather data to make a BTA determination, there is another aspect of the compliance schedule GSP is seeking that is also not permitted under the CWA because it improperly creates incentives not only for GSP to delay but also for it to undermine the effectiveness of wedgewire screens in any further study. As discussed above, GSP has admitted that it is no longer interested in installing wedgewire screens, and is amenable to a permit containing wedgewire screen requirements only if it

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(June 1, 1976).

[57] May 10, 2007 EPA Guidance at 3, ¶¶ 8, 9.

[58] 2017 Statement of New Questions at 23.

[59] 40 C.F.R. § 125.98(b)(2).

[60] 2017 Statement of New Questions at 16; *see also* 40 C.F.R. § 125.98(g).

can, after the permit has been issued, conduct a study on wedgewire screens that the company will then use to propose some other compliance option. If GSP submits a study purporting to show that wedgewire screens are infeasible in Hooksett Pool due to fouling, insufficient sweeping flows, insufficient water depth or other factors (which EPA already determined in 2011), then GSP would likely use that study to argue that it should be relieved of the obligation to install wedgewire screens. Or if GSP's study shows that wedgewire screens are feasible but have low effectiveness, then GSP can be expected to use that study to argue that some alternative method of compliance (or no changes to its cooling system at all) would provide a similar level of performance to wedgewire screens and should be allowed by EPA. (Indeed, GSP's proposed two-stage compliance schedule states that the second period would be "to select and implement [an] option for achieving similar effectiveness [to wedgewire screens]."[61] Only if GSP submits a study purporting to show that wedgewire screens would be both feasible and highly effective in Hooksett Pool, would GSP have to actually install wedgewire screens (after the delay caused by the study) or some other technology shown to have an equally high level of effectiveness. The more effective wedgewire screens are shown to be, the more likely they would have to be installed and the higher the bar for substitute technology or operational measures. Thus, while PSNH had an incentive to show that wedgwire screens would be effective, if a permit were issued determining wedgewire screens to be BTA, from that point forward GSP's economic incentives would be reversed; the company would have nothing to gain by proving their feasibility and effectiveness, and would have much to gain by trying to prove the opposite, that wedgewire screens would not be feasible or that their effectiveness would be limited. (Of course, GSP would also have an economic incentive to delay, by seeking extensions and/or submitting incomplete or inclusive studies requiring supplementation.) EPA should not allow GSP to game the system in such manner.

CONCLUSION

EPA should proceed, without further delay, to finalize its 2011 BTA determination and to issue a final NPDES permit containing cooling water intake structure requirements based on closed-cycle cooling it proposed in 2011 and 2014. If, however, EPA were to change its determination, EPA would not be legally authorized to issue a NPDES permit with the approach to BTA that GSP is seeking, for all of the reasons given above.

The permitting process for Merrimack Station has taken far too long already. EPA should not, at the behest of a new owner of the Station, further delay issuance of the permit and disregard years of work and analysis by the agency. Changing

[61] GSP, "Merrimack NPDES Permit" – Open Items," (undated), provided to EPA Region 1 on September 10, 2019.

course, as requested by GSP, would not only continue degradation of the Merrimack River and undermine the integrity of the Clean Water Act and its permitting process, but would also amount to an unwarranted windfall to the company, which acquired the Station knowing full well that EPA had made a proposed determination that BTA and state water quality standards required converting the Station's cooling system to closed-cycle cooling (and whose bid and purchase price for the Station must have factored in that risk). GSP is now objecting not only to installing cooling towers but also to wedgewire screens or any other technology that might cost more than they want to spend. EPA should not be complicit in GSP's evasion tactics.

Sincerely,

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