BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

In re:	)	
	)	NPDES Appeal No. 20-05
Granite Shore Power Merrimack LLC	)	
NPDES Permit No. NH0001465	)	

PETITION FOR REVIEW BY SIERRA CLUB AND CONSERVATION LAW FOUNDATION

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TABLE OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

(Generally matching those used in the Responses to Comments)

APA	Administrative Procedure Act
AR	Administrative Record
BAT	Best Available Technology Economically Achievable
BIP	Balanced Indigenous Population
BPJ	Best Professional Judgment
BPT	Best Practicable Technology
CCC	Closed-Cycle Cooling
CLF	Conservation Law Foundation
CWA	Clean Water Act
EAB	Environmental Appeals Board
ELG	Effluent Limitation Guidelines
EPA	Environmental Protection Agency
FOIA	Freedom of Information Act
GPD	Gallons Per Day
GSP	Granite Shore Power (current owner of Merrimack Station)
MBTUs	Millions of British Thermal Units
MGD	Millions of Gallons Per Day
NPDES	National Pollutant Discharge Elimination System
PSNH	Public Service of New Hampshire (former owner of Merrimack Station)
RTC	Responses to Comments
USGS	United States Geological Survey

WQS	Water Quality Standards
°C	Degrees Celsius
°F	Degrees Fahrenheit
7Q10	The lowest 7-day average river flow that occurs once every ten years

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20	AR-1702	U.S. EPA, Technical Development Document for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, Sept. 2015
21	AR-1564	U.S. EPA, Memorandum from James Hanlon, EPA Director of Wastewater Management to Water Divisions Directors Regions 1 to 10, Re: National Pollutant Discharge Elimination System (NPDES) Permitting of Wastewater Discharges from Flue Gas Desulfurization (FGD) and Coal Combustion Residuals (CCR) Impoundments at Steam Electric Power Plants, July 7, 2010
22	AR-746	U.S. EPA, NPDES Permit Writers' Manual, Sept. 2010
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24	AR-851	Comments of Conservation Law Foundation on 2011 Draft Permit, Feb. 28, 2012
25	AR-866	Comments of Sierra Club, *et al.*, on 2011 Draft Permit, Feb. 28, 2012

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I.

INTRODUCTION

In 2011, EPA's New England Regional Office found compelling evidence of appreciable harm to the Merrimack River's balanced indigenous fish community caused by the thermal discharge from Merrimack Station, a power plant in Bow, New Hampshire. Nine years and three public comment periods later, the Region reaffirmed that this 2011 determination was correct, yet proceeded to eviscerate the draft NPDES permit and backslide from the prior final permit—by granting a variance from *both* technology-based and water-quality-based standards, eliminating numeric and narrative effluent limitations, and replacing them with new, unprotective limitations—thereby perpetuating the ecological damage, without a proper legal or record basis and without allowing public comment on the significant changes.

In addition, the Region failed to set more stringent Best Available Technology Economically Achievable ("BAT") limits on discharges of combustion residual leachate from Merrimack Station. Despite the fact that EPA's national effluent guidelines for these discharges were recently vacated by the Fifth Circuit Court of Appeals, the Region nevertheless included BAT limits in the Merrimack permit that the Fifth Circuit held to be inadequately protective and unlawful. Leachate is a significant source of toxic pollution from power plants, and EPA is required to set BAT limits on leachate in this permit in the absence of nationwide regulations establishing BAT.

For those reasons, Sierra Club and Conservation Law Foundation ("CLF") (together, "Petitioners") hereby petition the Environmental Appeals Board (the "Board" or "EAB") to review certain clearly erroneous determinations, abuses of discretion, and important policy considerations in final National Pollutant Discharge Elimination System ("NPDES") Permit No. NH0001465 (the "Permit") issued by the U.S. Environmental Protection Agency, Region 1 (the "Region" or "EPA") to Granite Shore Power Merrimack LLC for Merrimack Station.[1]

II.

THRESHOLD PROCEDURAL REQUIREMENTS

This petition is timely filed by the July 27, 2020 deadline set in the Board's June 16, 2020 order.

A. Issues Presented for Review

Pursuant to 40 C.F.R. § 124.19(a)(4)(i), Petitioners identify for review these contested conditions and other challenges to the Permit decision:

(1) Part I.A.11;

(2) The Region's removal of narrative effluent limitations on the Station's thermal plumes that were in the 1992 Permit (Part I.A.1.g) and in the 2011 Draft Permit and 2014 Revised Draft Permit (Part I.A.23);

(3) The Region's purported limitation of Part I.A.12 (which continues the prohibition against violating water quality

[1] The Permit is Attachment 1, AR-1886. The Attachment ("Att.") and Administrative Record ("AR-") numbers are provided in the first citation to each attachment and in subsequent citations to infrequently cited attachments. *See also* Table of Attachments, *supra*.

standards from Part I.A.1.b of the 1992 Permit) to not pertain to thermal discharges; and

(4) The Region's failure to set BAT limits in the Permit on combustion residual leachate discharges from Outfall 003A.

Accordingly, the provisions of the Permit to be stayed pursuant to 40 C.F.R. §§ 124.16(a) and 124.60(b) pending final agency action under § 124.19(k)(2) are: (i) Part I.A.11; and (ii) Part I.A.12.

Pursuant to 40 C.F.R. § 124.16(c)(2), the "conditions of the existing permit which correspond to the stayed conditions," which the Permittee must comply with during the stay, are: (i) Part I.A.1.g of the 1992 Permit; (ii) Part I.A.1.b of the 1992 Permit; and (iii) Part I.A.13 of the 1992 Permit.

B. Preservation of Issues

Pursuant to 40 C.F.R. §§ 124.19(a)(2) and 124.19(a)(4)(ii), Petitioners identify administrative record documents AR-851, AR-866, AR-1061, AR-1573, AR-1574, and AR-1575 as written comments in which the issues in this petition were raised during public comment periods, to the extent required by § 124.13. Petitioners commented at length that: (i) EPA correctly determined in 2011 that closed-cycle cooling is necessary to meet the BAT standard and state water quality standards;[2] (ii) EPA correctly determined in 2011 to reject a § 316(a) variance because the technology- and water-quality-based standards are not more stringent than necessary to assure protection and propagation of the balanced indigenous

[2] Att. 23 (AR-1061; Comments of Sierra Club and CLF, 11/3/11); Att. 24 (AR-851; Comments of CLF, 2/28/12) at 11–21; Att. 25 (AR-866; Comments of Sierra Club, *et al.*, 2/28/12) at 1 (incorporating CLF's comments).

population;[3] (iii) there is insufficient information in the record to alter EPA's 2011 denial of a § 316(a) variance or to apply alternative limits;[4] and (iv) the Region must set BAT limits on coal combustion wastewater consistent with the outcome of *Southwest Electric Power Coompany v. EPA*, No. 15-60821 (5th Cir.), which case was subsequently decided in April 2019 and is discussed extensively in the Region's Responses to Comments ("RTC").[5]

The Permit includes substantial changes from the draft permits and issues corresponding to those post-comment-period changes could not have been raised during the comment periods.[6] Specifically: (i) Part I.A.11 was not in the draft permits and was developed after the comment periods closed; (ii) the narrative effluent limitations on the thermal plume were in the draft permits and removed from the Permit without any indication in the public notices; and (iii) the Region's statements that Part I.A.12 does not pertain to thermal discharges emerged only in the RTC. Petitioners thus raised all reasonably ascertainable issues and available arguments in compliance with 40 C.F.R. § 124.13.

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[3] AR-851 at 6-11; AR-866 at 1; Att. 26 (AR-1573; Comments of Sierra Club, CLF, *et al*. 12/18/17) at 6-13.

[4] AR-851 at 21–23; AR-866 at 1; AR-1573 at 6–13; *see also* Atts. 27, 28 (AR-1574, AR-1575; Petitioners' consultants' reports).

[5] AR-1573 at 20 & n.5; Att. 3 (AR-1885; RTC) at V-6, V-8, V-30 (noting that the Fifth Circuit's 2019 decision in *Southwestern Electric Power Company* is a significant legal development that post-dates the last comment period in 2017).

[6] *See* 40 C.F.R. §§ 124.19(a)(2), 124.19(a)(4)(ii), 124.13.

In 2019, Petitioners obtained through the Freedom of Information Act ("FOIA") several "discussion drafts" containing partial NPDES permit conditions that were exchanged between the Region and the Permittee after the close of the public comment periods.[7] On January 7, 2020, Petitioners sent EPA a letter requesting, *inter alia*, an opportunity for public comment,[8] but the Region did not respond before finalizing the Permit.[9]

Pursuant to 40 C.F.R. § 124.19(a)(4)(ii), further citations to the RTC and explanations as to why the Region's response was clearly erroneous or otherwise warrants review are set forth in the Argument section, *infra*, for each issue.

III.

STATUTORY AND REGULATORY FRAMEWORK

A. Regulation of Thermal Discharges

Congress enacted the Clean Water Act ("CWA") "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[10] The CWA defines heat as a pollutant and prohibits thermal discharges from a point source to a water of the United States unless authorized by a NPDES permit.[11] Since the 1972 amendments, the Act has been grounded in the core principle that NPDES

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[7] *See infra* at 30, n.120.

[8] Att. 35 (AR-1688).

[9] *See* RTC at II-296 – II-340.

[10] 33 U.S.C. § 1251(a).

[11] 33 U.S.C. §§ 1311(a), 1362(6).

permits must require compliance with technology-based effluent limitations and any more stringent limitations necessary to meet water quality standards ("WQS").[12]

Section 316(a) provides a limited exception to that principle, as the Act's chief architect, Senator Muskie, made clear:

> Congress intended that there be a *very limited waiver* for those major sources of thermal effluents which could *establish beyond any question* the lack of relationship between federally established effluent limitations and that water quality which assures . . . the protection and propagation of a balanced, indigenous population . . . .[13]

This "very limited waiver" is typically referred to as a "section 316(a) variance," and effluent limitations established pursuant to such a variance are referred to as "alternative effluent limitations."[14]

Congress mandated that a § 316(a) variance may not be granted unless otherwise applicable technology-based and water-quality-based effluent limitations are "more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of

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[12] 33 U.S.C. §§ 1311(b)(1)(C), 1311(b)(2)(A), 1342(a)(1); *EPA v. Cal. ex rel. State Water Res. Control Bd.*, 426 U.S. 200, 204–05 & n.12 (1976).

[13] Att. 7 (AR-618; 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. NH0001465, EPA Region 1 – New England (2011) ("2011 Determinations")) at 25 (quoting legislative history).

[14] *See* 40 C.F.R. §§ 125.71(a), 125.72.

water into which the discharge is to be made" and the alternative limits "will assure" such protection and propagation.[15]

1. Balanced Indigenous Population ("BIP")

A "balanced, indigenous population" ("BIP") is defined by EPA regulations as synonymous with "balanced, indigenous community" to mean "a biotic community typically characterized by diversity, the capacity to sustain itself through cyclic seasonal changes, presence of necessary food chain species and by a lack of domination by pollution tolerant species."[16] "[T]he BIP must satisfy [these] listed indicia of an ecologically healthy community of organisms. It cannot be dominated by pollution-tolerant species or species whose presence or abundance is attributable to § 316(a) variance-based permit limits."[17] In other words, "Congress did not intend that a thermal discharger would be able to 'take advantage' of pollution-induced harm to the BIP to justify alternative thermal discharge limitations under § 316(a) that would only be sufficient to protect a damaged, diminished BIP."[18] As this Board has explained:

> Section 316(a) must . . . be read in a manner which is consistent with the Act's general purposes. Consequently, § 316(a) cannot be read to mean that a balanced indigenous population is maintained where the species composition . . . shifts from . . . thermally sensitive to thermally

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[15] 33 U.S.C. § 1326(a).

[16] 40 C.F.R. § 125.71(c).

[17] 2011 Determinations at 20 (citations omitted).

[18] *Id.* at 19 (citing legislative history).

> tolerant species. Such shifts are at war with the notion of "restoring" and "maintaining" the biological integrity of the Nation's waters.[19]

In identifying "the body of water into which the discharge is to be made" that is to be protected, EPA has "focused on discrete water bodies, water body segments, or even sub-areas within a water body segment, that may be influenced by the thermal discharge."[20] As explained by the Fourth Circuit in upholding EPA's site-specific approach:

> § 316(a) . . . provide[s] for consideration of specific site conditions in the setting of thermal limitations for individual power plants. Thus, while a greater level of thermal effluent by a generating unit might well fall within the general requirements of an approved state standard, EPA takes the position that such discharge might nevertheless cause serious harm to a particular spawning ground, for example, located just below the plant's discharge point.[21]

Further, citing this Board's decision in *Wabash*, the Region has recognized that "in assessing the BIP, EPA must look not only at the community as a whole but also at the effects on individual species of fish that should make up the BIP."[22] In *Wabash*, the EAB stated:

> [I]t is clear [from the regulatory definition of BIP] that both individual [species] and community considerations are relevant.

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[19] *In re Pub. Serv. Co. of Ind., Wabash River Generating Station*, 1 E.A.D. 590, 604 (EAB 1979) ("*Wabash*").

[20] 2011 Determinations at 21–22.

[21] *Appalachian Power Co. v. Train,* 545 F.2d 1351, 1372 (4th Cir. 1976); *see also* 2011 Determinations at 22 ("This approach makes ecological sense and is consistent with the CWA's overall purpose of restoring and maintaining the chemical, physical, and biological integrity of the Nation's waters.").

[22] 2011 Determinations at 21 (citing *Wabash*).

. . .

> Stated simply, the total picture will reflect consideration of both. . . . Thus, in attempting to judge whether the effects of a particular thermal discharge are causing the system to become imbalanced, it is necessary to focus on the magnitude of the changes in the community as a whole and in individual species, i.e., whether the changes are "appreciable."[23]

Furthermore, because "shellfish, fish, and wildlife" depend upon their habitat and forage, "Congress intended that 'elements of the aquatic ecosystem' necessary to support the protection and propagation of the BIP would also be protected under § 316(a)."[24]

2. Assuring Protection of the BIP

As noted, Congress mandated in § 316(a) that a variance may not be granted, and effluent limitations may not be relaxed, unless protection and propagation of the BIP will be "assure[d]." This exacting standard means that BIP protection and propagation must be "made certain."[25] Notably, "[i]n applying CWA § 316(a), technological and cost or economic issues are not a consideration."[26]

The permittee has the burden of proof in persuading the permitting authority

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[23] *Wabash*, 1 E.A.D. at 600–01.

[24] 2011 Determinations at 19 (quoting legislative history).

[25] *Assure,* MERRIAM-WEBSTER DICTIONARY (11th ed.), https://www.merriam-webster.com/dictionary/assure (last visited July 26, 2020).

[26] 2011 Determinations at 23 (citing legislative history; 40 C.F.R. § 125.73); *accord Wabash*, 1 E.A.D. at 610.

that non-variance limits are more stringent than needed for protection of the BIP[27] *and* that alternative limits will protect the BIP.[28] This is done through a "316(a) demonstration." The regulations provide for different types of demonstrations: an existing discharger may submit a "Retrospective Analysis," in which it seeks to demonstrate the "absence of prior appreciable harm," or a "Prospective Analysis," in which it seeks to show that the "desired alternative effluent limitations (or appropriate modifications thereof) will nevertheless assure the protection and propagation of [the BIP]."[29]

The law is also clear that cumulative effects must be considered: "discharge limits imposed under § 316(a) must be sufficient to ensure the protection and propagation of the BIP, taking into account other environmental stresses to the relevant population, including from any [cooling water intake structures]."[30] Accordingly, an existing discharger may not be able to demonstrate the absence of appreciable harm "if there is evidence that it has *contributed* to the failure to

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[27] References in this petition to "protection" of the BIP include "protection *and propagation*" of the BIP, unless clearly indicated otherwise.

[28] 33 U.S.C. § 1326(a); 40 C.F.R. § 125.73(a).

[29] 40 C.F.R. § 125.75(a), (c)(1).

[30] 2011 Determinations at 22-23 (citing *In re Pub. Serv. Co. of N. H. (Seabrook Station, Units I & II)*, 1977 EPA App. LEXIS 16, *19–20; 1 E.A.D. 332 (Adm'r 1977) ("*Seabrook*")).

maintain the BIP."[31]

A § 316(a) variance application involves a multi-step process, as the EAB has explained:

> [R]eading CWA sections 301 and 316(a) together, the statute and regulations in effect establish a three- (and sometimes four-) step framework for obtaining a variance: (1) the Agency must determine what the applicable technology and WQS-based limitations should be for a given permit; (2) the applicant must demonstrate that these otherwise applicable effluent limitations are more stringent than necessary to assure the protection and propagation of the BIP; (3) the applicant must demonstrate that its proposed variance will assure the protection and propagation of the BIP; and (4) in those cases where the applicant meets step 2 but not step 3, the Agency may impose a variance it concludes does assure the protection and propagation of the BIP.[32]

EPA has recognized that "the burden of proof in a 316(a) case is a stringent one" and permit writers "may not speculate as to matters for which evidence is lacking."[33] In light of the CWA's overarching goals—particularly because the applicant is asking to be excused from the otherwise applicable limitations—"EPA should take a *conservative approach* to assessing [§ 316(a)] variance applications."[34] "The greater the risk, the greater the degree of certainty that should be required."[35]

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[31] *In re Dominion Energy Brayton Point, LLC (Formerly USGen New England, Inc.) Brayton Point Station*, 12 E.A.D. 490, 565 n.119 (EAB 2006) ("*Brayton Point I*") (emphasis added).

[32] *Id.* at 500.

[33] *Seabrook*, 1 E.A.D. at 347.

[34] 2011 Determinations at 25 (emphasis added).

[35] *Seabrook,* 1 E.A.D. at 347; *see also* 2011 Determinations at 25 ("information requirements are likely to increase to the extent that there is greater reason for concern over the protection and propagation of the BIP").

B. Regulation of Combustion Residual Leachate Discharges

The CWA sets a national goal of eliminating water pollution.[36] To achieve that goal, the Act requires facilities to meet a series of increasingly stringent, technology-based effluent limitations.[37]

For pollutants classified as either toxic (such as heavy metals) or "nonconventional" (such as nitrogen), the first standards to be met were best practicable control technology ("BPT"), which Congress intended to apply to all pollutant dischargers by 1977,[38] followed by the more stringent BAT, which Congress intended to apply to all pollutant dischargers by 1989.[39] These effluent limitations must be based on effluent limitation guidelines ("ELGs"), promulgated by EPA, which are nationwide, minimum standards for categories of sources.[40] These national standards set a federal floor for environmental protection, based on application of wastewater treatment technology, in order to avoid a "race to the

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[36] 33 U.S.C. § 1251(a)(1).

[37] *Tex. Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 927 (5th Cir. 1998) (noting that the CWA was designed to eliminate water pollution "through a system of effluent limitations guidelines"); *Natural Res. Def. Council, Inc. v. EPA*, 859 F.2d 156, 202 (D.C. Cir. 1988) ("[T]he primary purpose of the CWA is the elimination of all pollutant discharges . . . . The central mechanism for achieving this goal is promulgation and imposition of increasingly stringent effluent limits").

[38] 33 U.S.C. § 1311(b)(1)(A).

[39] *Id.* § 1311(b)(2).

[40] *E.I. DuPont de Nemours & Co. v. Train*, 430 U.S. 112, 127, 129 (1977).

bottom" by state regulators.[41] Congress intended BAT to be "technology-forcing," to "push[] industries toward the goal of zero discharge as quickly as possible."[42]

IV.

FACTUAL AND PROCEDURAL BACKGROUND

A. Merrimack Station on the Merrimack River

The 116-mile-long Merrimack River is the second-largest river in New England and runs from the confluence of the Pemigewasset and Winnipesaukee rivers in Franklin, New Hampshire, to the Atlantic Ocean in Newburyport, Massachusetts.[43]

Merrimack Station (the "Station") is a steam-electric power plant operated by Granite Shore Power Merrimack LLC (a/k/a GSP Merrimack LLC) (the "Permittee"), which burns coal and has an electrical output of 478 megawatts.[44] The station has two primary power generating units: Unit 1, which began operation in 1960 and has a nameplate rating of 120 megawatts, and Unit 2, which began operation in 1968 and has a nameplate rating of 350 megawatts.[45]

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[41] *See Natural Res. Def. Council, Inc. v. Train*, 510 F.2d 692, 709–10 (D.C. Cir. 1974).

[42] *Kennecott v. EPA*, 780 F.2d 445, 448 (4th Cir. 1985).

[43] 2011 Determinations at 2.

[44] *Id*. at 7.

[45] *Id*. at 8.

1. Thermal Discharges

Steam-electric power plants generate electricity by boiling water to produce steam that spins a turbine.[46] The steam exhausted from the turbine is then cooled through one of three basic cooling system configurations: (1) "once-through" (or "open-cycle") cooling, (2) "closed-cycle" cooling, or (3) dry cooling.[47] A once-through cooling system withdraws large volumes of water from a source water body, uses that cooling water to extract waste heat, and discharges the heated water back to the source water body.[48] The environmental impacts of these systems can be "staggering."[49] In contrast, closed-cycle and dry cooling dissipate waste heat into the air, instead of discharging it in water, thereby reducing cooling water withdrawals and thermal discharges by more than 90%.[50]

The Station uses a once-through cooling system, which, at full capacity, withdraws 287 million gallons of water per day ("MGD") from the Merrimack River.[51] Specifically, the Station withdraws from, and discharges into, an impounded section of the river known as the Hooksett Pool, which is 5.8 miles long, 500 to 700 feet wide, and relatively shallow (6 to 10 feet deep under most flow

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[46] *Id*. at 133.

[47] *Id*. at 135.

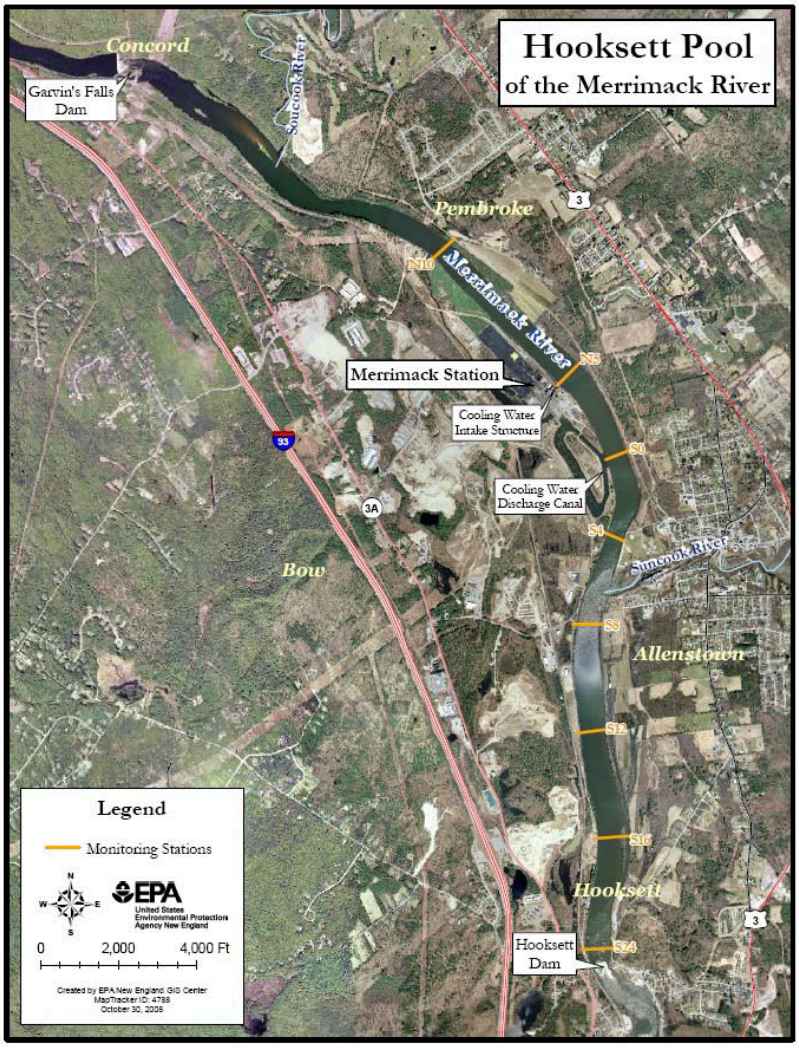
[48] *Id*. at 136-37.

[49] *Riverkeeper, Inc. v. EPA*, 358 F.3d 174, 181 (2d Cir. 2004).

[50] 2011 Determinations at 136.

[51] *Id*. at 7.

conditions).[52] As EPA has explained: "These characteristics make the aquatic habitat in Hooksett Pool particularly vulnerable to the effects of Merrimack Station's thermal discharge."[53]



[Map of Hooksett Pool, 2011 Determinations at 4 (Figure 2)]

[52] *Id.* at 3

[53] *Id.* at 37.

The 287 million gallons of water that the Station withdraws daily when both units are operating is "a large fraction of the available river flow."[54] EPA estimates that the Station "typically redirect[s] up to 62 percent of the available flow under low flow conditions.[55] On some days the Station has withdrawn and discharged as much as 83% to 95% of the river's flow,[56] and, under the most extreme conditions, *more than 100%*.[57] As EPA explained, quoting a report from the Station's consultant:

> Because the river . . . in Hooksett Pool is sometimes less than the [Station's] required [withdrawal volume] the generation station may utilize more than 100% of the river volume during coincident periods of low flow and maximum power generation. During these periods, water from the discharge canal may . . . flow upstream . . . .[58]

"Water withdrawal at a rate significant enough to cause water from the discharge canal to flow upstream clearly has the potential to affect the Hooksett Pool environment."[59]

These large volumes of heated cooling water are discharged into Hooksett Pool at temperatures of up to 104°F (40°C), as much as 23.8°F (13.1°C) warmer

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[54] *Id*. at 38.

[55] *Id*. The "7Q10" flow (*i.e.*, the lowest 7-day average river flow that occurs once every ten years) for this section of the river is approximately 380 MGD (587.75 cubic feet per second). *Id*.

[56] *Id*. at 79, 38, 119.

[57] *Id*. at 37.

[58] *Id*. at 37-38 (quoting report by Normandeau Associates, Inc.).

[59] *Id*. at 38.

than the ambient river.[60] During typical summer conditions, the Station's thermal plume extends across the entire width of Hooksett Pool, heating its shallow shoreline areas, which are important habitat for fish.[61]

More than twenty fish species have been identified in the Hooksett Pool, including resident species and diadromous species (which spend part of their life cycle in salt water).[62] Because water temperature affects virtually all biochemical, physiological, and developmental attributes of freshwater fishes, as well as their habitat and forage, excess heat can cause fish populations to increase or decrease in abundance or face extinction, appreciably altering the biological community.[63] Temperature increases can also affect dissolved oxygen levels, reducing oxygen supply to aquatic organisms.[64] The Station's thermal plume has caused low dissolved oxygen conditions in Hooksett Pool.[65]

During colder seasons, thermal discharges may deprive certain species of the cold-water habitat needed to ensure proper gonadal development.[66] Another concern in winter is "cold shock," when Station shutdowns may cause rapid

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[60] *Id*. at 119, 38.

[61] *Id*. at 38–39, 119.

[62] *Id* at 32–33.

[63] *Id*. at 29 (citing scientific literature).

[64] *Id*. at 29–30.

[65] *Id*. at 7, 119.

[66] *Id*. at 348.

reductions in temperature, leading to physiological impairment or death of fish.[67] Thus, the Station's "thermal discharges can have a profound effect on a receiving water's quality and suitability as a habitat and on many aspects of a species' ability to survive."[68]

2. Discharges of Combustion Residual Leachate

According to the water flow schematic relied on by EPA in the 2011 Draft Permit, the Station generates as much as 5,500 gallons per day ("GPD") of combustion residual leachate from its ash landfill.[69] "[L]eachate consists of liquid that percolates through a landfill or impoundment and is eventually discharged into water."[70] Combustion residual leachate contains an array of pollutants, including significant concentrations of chlorides and sulfates.[71] During its rulemaking to update the ELGs for steam-electric power plants that concluded in 2015, EPA identified several treatment technology options for combustion residual leachate, including chemical precipitation and biological treatment, that would be more effective at reducing pollutants in leachate prior to discharge than relying on a

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[67] *Id*. at 349.

[68] *Id.* at 30.

[69] Att. 8 (AR-615).

[70] *Sw. Elec. Power Co. v. EPA*, 920 F.3d 999, 1023 (5th Cir. 2019) (citing EPA, Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 80 Fed. Reg. 67,838, 67,847 (Nov. 3, 2015)).

[71] Att. 20 (AR-1702; U.S. EPA, Technical Development Document for the Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, Sept. 2015) at 6-11 – 6-14.

settling pond, as is the current practice at the Station.[72]

B. The 1992 Permit

The Station's existing NPDES permit (the "1992 Permit") was issued in 1992, expired in 1997, and has been administratively continued under 40 C.F.R. § 122.6 for the past 23 years.[73] The 1992 Permit subjects the thermal plumes caused by the Station's discharges to the following narrative effluent limitations:

> The combined thermal plumes for the station shall: (a) not block the zone of fish passage, (b) not change the balanced indigenous population of the receiving water, and (c) have minimal contact with the surrounding shorelines.[74]

Such limitations are a common feature of NPDES permits issued by Region 1.[75]

The 1992 Permit also requires that: "[t]he discharges shall not jeopardize any Class B use of the Merrimack River and shall not violate applicable water quality standards."[76] The applicable water quality standards include provisions that address the effects of thermal discharges on aquatic life and habitat, which the Region summarized as follows:

(a) thermal discharges may not be "inimical to aquatic life";

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[72] *Id*. at 7-48 – 7-50; *see also* 80 Fed. Reg. at 67,851 (concluding that chemical precipitation and biological treatment are more effective than settling in surface impoundments in reducing pollutants in coal combustion wastewater discharges).

[73] 2011 Determinations at i.

[74] 1992 Permit, § I.A.1.g.

[75] RTC at II-328 – II-331 & nn.53-60.

[76] 1992 Permit, § I.A.1.b.

(b) thermal discharges must provide, wherever attainable, for the protection and propagation of fish, shellfish, and wildlife, and for recreation, in and on the receiving water;

(c) thermal discharges may not contribute to the failure of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to, and with only non-detrimental differences in community structure and function from, that of similar natural habitats in the region; and

(d) [a]ny stream temperature increase associated with thermal discharge must not appreciably interfere with fishing, swimming and other recreational purposes.[77]

The 1992 Permit also requires that, when certain temperature criteria are reached, the Station must operate a "power spray module" ("PSM") system designed to cool the heated water in the Station's discharge canal before it reaches the main stem of the river.[78] The PSM was "intended to protect cold water fisheries,"[79] but has "limited cooling capacity"[80] and in-river temperature criteria "have regularly been exceeded in the summer."[81]

The 1992 Permit's thermal discharge provisions were based on a § 316(a) variance. In 2011, the Region frankly admitted that EPA had not performed any

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[77] 2011 Determinations at x-xi. Applicable state WQS are codified at N.H. Rev. Stat. Ann. § 485-A:8(II) (Class B waters) and N.H. Code R. Env-Wq §§ 1701.01 (purpose), 1702 (definitions), 1703.01 (classifications and uses), 1703.03 (general water quality criteria), 1703.07 (dissolved oxygen), 1703.13 (temperature), 1703.19 (biological and aquatic community integrity).

[78] 1992 Permit, Part I.A.11.b.

[79] 2011 Determinations at 27.

[80] *Id*. at 134.

[81] *Id*. at vii; *see also id*. at 28.

detailed review or independent evaluation before granting the variance in 1992, but instead "relied predominantly on the plant's [own] assessment of the thermal discharge's impacts."[82]

C. The 2011 Draft Permit and Determinations

The Station's former owner, Public Service of New Hampshire ("PSNH"), applied for permit renewal and renewal of the 1992 § 316(a) variance with "thermal discharge conditions matching those in the existing [1992] permit."[83] The Region, however, "determined [in 2011] that it must reject Merrimack Station's request for a CWA § 316(a) thermal discharge variance."[84]

In evaluating the variance request, the Region not only "considered the plant's data and analyses, but . . . also . . . conducted a detailed independent evaluation."[85] That evaluation concluded that "the evidence as a whole indicates that Merrimack Station's thermal discharge *has* caused, or contributed to, appreciable harm to Hooksett Pool's BIP."[86]

At "Step 1" of the framework for evaluating § 316(a) variance applications,[87]

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[82] *Id*. at 27–28.

[83] *Id*. at viii.

[84] *Id*. at 121.

[85] *Id*. at 28.

[86] *Id*. at viii.

[87] *See Brayton Point I*, 12 E.A.D. at 500 ("[T]he agency must determine what the applicable technology and WQS-based limitations should be for a given permit.").

the Region determined under CWA §§ 301, 304, and 402 and 40 C.F.R. § 125.3 that closed-cycle cooling ("CCC") with wet or hybrid mechanical draft cooling towers, operated year-round, constitutes the Best Available Technology for reducing the Station's thermal discharges because: (i) it is capable of reducing thermal discharges by 95% or more, making it the best performing technology among the available alternatives; (ii) it is technologically and economically feasible; (iii) any non-water quality environmental effects of the technology are modest and addressable; and (iv) none of the other concerns raised by PSNH presented obstacles.[88]

Having determined that converting the Station to CCC is BAT for controlling thermal discharges, EPA calculated the maximum monthly and annual heat load in millions of British Thermal Units ("MBTUs") that the Station could discharge to the river with CCC in place, and incorporated them as thermal effluent limits in the 2011 Draft Permit, as follows:[89]

Effective Period	Total MBTUs
January	6846
February	5605
March	7417
April	7200
May	6156
June	4058
July	3260
August	3388

[88] 2011 Determinations at ix, 173, 211; *see also generally id*. at Ch. 7.

[89] 2011 Draft Permit, § I.A.5.b; 2011 Determinations at xii (MBTU limits in 2011 Determinations are approximately 0.1% higher than those in 2011 Draft Permit).

September	4389
October	5941
November	7284
December	6910
Annual	94,703

As to water-quality-based requirements, EPA "concluded that maintaining specific protective temperatures in the river was necessary to satisfy New Hampshire's WQS,"[90] and determined that compliance with the BAT limits would satisfy the WQS because the use of CCC year-round would always keep thermal discharges low enough to avoid an exceedance of the protective temperature thresholds.[91]

Moving to "Step 2" of the § 316(a) framework, the Region determined that those technology- and water-quality-based effluent limitations were *not* more stringent than necessary to assure the protection and propagation of the BIP.[92] More specifically, the Region concluded that "there is compelling evidence of appreciable harm to the balanced, indigenous fish community of Hooksett Pool"[93] and "PSNH has not demonstrated that its proposed alternative discharge limits—namely, limits consistent with open-cycle cooling—would reasonably assure the protection [of the BIP]."[94]

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[90] *Id*. at xiii.

[91] *Id*.

[92] *Id*. at 121.

[93] *Id*. at 118; *see also id*. at 116.

[94] *Id*. at 121.

With respect to the BIP, the Region found, *inter alia,* that since the Station began heating the River (particularly after the start-up of Unit 2, which has triple the capacity of Unit 1): (i) fish species abundance in Hooksett Pool had dropped by approximately 90%; (ii) the pool's fish community shifted from a mix of warm and coolwater species to a community dominated by thermally tolerant species; (iii) the abundance of certain Representative Indicator Species (yellow perch, pumpkinseed, and white sucker) "significantly declined;"[95] and (iv) "in addition to affecting fish directly, the rise in temperature of the cooling water has a significant effect on the plankton suspended in it downstream from the discharge . . . , which are important forage for larval and juvenile fish."[96]

The Region found that detrimental effects on aquatic life were being caused by thermal plumes that extend far, wide, and deep in the narrow and shallow Hooksett Pool, especially during low-flow conditions, as follows:

1. "During summer low-flow conditions, Merrimack Station's thermal plume can extend from the end of the Discharge Canal . . . approximately 2.9 miles to . . . just above Hooksett Dam."

2. "Given the relatively shallow depths of Hooksett Pool . . . , the thermal plume can affect one- to two-thirds of the water column in the deepest areas during summer conditions. Most, if not all, of the shallower areas along the shorelines can be affected by the thermal plume downstream from the discharge. These shallow shoreline areas are important habitat for juvenile fish."

3. "The thermal plume extends across the entire width of Hooksett Pool during typical summer conditions."

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[95] *Id*. at 117.

[96] *Id*. at 120.

4. "Under extreme low-flow conditions, Merrimack Station presently redirects up to 83 percent of the Merrimack River flow through the plant . . . Under these conditions, the discharged water can be up to 23.8°F (13.1°C) warmer than ambient temperatures in the river."[97]

Thus, "EPA conclude[d] that the capacity of the plant's thermal discharge to adversely impact the balanced, indigenous fish community of Hooksett Pool is significant."[98]

To prevent those impacts and to meet WQS, in addition to the BAT-based heat load limits, the 2011 Draft Permit continued the three narrative effluent limitations on the thermal plume from the 1992 Permit and added a fourth:

> Any thermal plume from Outfall 004D (intake de-icing water) or 003 (Discharge Canal) at Merrimack Station shall (a) not block the zone of fish passage, (b) not change the balanced indigenous population of organisms utilizing the receiving water, (c) have minimal contact with the surrounding shorelines, *and (d) not cause acute lethality to swimming or drifting organisms, including those entering the discharge canal at Outfall 003*.[99]

Similarly, the 2011 Draft Permit includes the prohibition against violations of WQS that was in the 1992 Permit:

> Discharges . . . from Merrimack Station shall not jeopardize or impair any Class B use of the Merrimack River and shall not cause a violation of the water quality standards of the receiving water.[100]

During the comment period, Petitioners submitted extensive comments on the

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[97] *Id*. at 118–19.

[98] *Id*. at 118.

[99] 2011 Draft Permit, Part I.A.23 (additional limitation italicized).

[100] *Id*., Part I.A.14.

2011 Draft Permit.[101]

D. The 2014 Revised Draft Permit

In 2014, the Region issued another version of the Station's draft permit for public comment ("2014 Revised Draft Permit").[102] The Region revised its BAT determination for discharges of certain pollutants *other* than heat.[103]

Despite receiving comments from PSNH objecting to the 2011 thermal discharge determinations, the Region did *not* state that it was reconsidering, revising, or reopening any of its those determinations or permit conditions. Indeed, the 2014 Revised Draft Permit retains all of the thermal discharge effluent limitations verbatim from the 2011 Draft Permit.[104]

E. The 2017 Comment Period

In 2017, *without* issuing a further revised draft permit, the Region reopened the public comment period only with respect to certain issues set forth in a "Statement of Substantial New Questions for Public Comment."[105] Many of the new issues involved the regulation of cooling water intake structures under CWA § 316(b) and technology-based standards for other wastewater streams.

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[101] Atts. 23-25 (AR-1061, AR-851, AR-866).

[102] Att. 9 (AR-1136).

[103] RTC at II-314 (finding vapor compression technology is BAT for discharges of wastewater from wet flue-gas desulfurization scrubber).

[104] Att. 9 at Parts I.A.5.b, I.A.14, I.A.23.

[105] Att. 10 (AR 1534; Statement of Substantial New Questions for Public Comment ("2017 Statement")).

With respect to thermal discharges, the Region invited public comment on just three issues. First, the Region stated that, "due to a lack of clarity" in a 2007 report submitted by PSNH and "confusing aspects of how it was presented," it "appear[ed] that the Agency had misunderstood [certain] temperature data."[106] Specifically, the data was presented as though it represented the *average* maximum temperatures on each day over a 21-year period when, in fact, it represented the highest temperature recorded on each of those days.[107] The Region noted that it "initially [*i.e.*, in 2011] did not think that such single-day data would be particularly useful," but it "reevaluated the use of these data [and] conclude[d] that the single-day data . . . can, in fact, provide one useful metric for assessing the effects of Merrimack Station's thermal discharge."[108] As the Region explained,

> [L]ooking *only* at long-term averages would obscure more extreme conditions that fish and other aquatic life might be exposed to over shorter, but still biologically significant periods of time. For example, such *shorter, but impactful periods could occur during the summer when the plant is in full operation during low river flow and high ambient temperature conditions*.[109]

Second, the Region stated that it had become aware of non-native organisms, in particular, the Asian clam (*Corbicula fluminea*), that is "notably concentrated in areas of Hooksett Pool with water temperatures directly affected by the plant's

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[106] *Id*. at 38–39.

[107] *Id*. at 39.

[108] *Id*.

[109] *Id*. at 39–40 (second emphasis added).

thermal discharge," and invited public comment on the import of this issue for setting the Station's thermal discharge limits.[110]

Third, the Region stated that, "[w]hereas the Facility used to operate as a baseload plant, it now operates more as a peaking plant. It operates little in the shoulder seasons of fall and spring, *but can operate a great deal during the peak demand periods that occur during cold winter conditions and hot summer conditions*."[111] Although the Region stated that it was "considering whether this changed operating profile should trigger changes to the permit limits," it emphasized that "[a]t present, *EPA has determined that the changing operating scenario does not provide a basis for altering what would otherwise be the permit limits*."[112] "Furthermore," the Region continued, "given that the Facility still operates at high rates in hot summer and cold winter conditions, its extensive operations during those periods can still potentially have serious environmental effects."[113] The Region then invited comment on "what effect, if any," the Station's reduced capacity utilization rate should have on the NPDES permit limits.[114]

Petitioners again submitted comments.[115]

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[110] *Id*. at 41–43.

[111] *Id.* at 68 (emphasis added).

[112] *Id* (emphasis added).

[113] *Id*. at 69.

[114] *Id*.

[115] Atts. 26–28 (AR-1573, AR-1574, AR-1575).

F. Sale of the Station in 2018

As a result of a divestiture of PSNH's generating assets, the Permittee bought the Station on January 10, 2018, and the 1992 Permit was transferred to the Permittee shortly thereafter.[116]

G. The Citizen Suit

On November 1, 2018, Sierra Club and CLF gave notice of their intent to sue the Permittee under the CWA's citizen suit provision[117] for ongoing and continuous violations of the 1992 Permit, specifically the narrative effluent limitations in Parts I.A.1.g and I.A.1.b.[118] The complaint was filed in the U.S. District Court for the District of New Hampshire, which denied motions to dismiss the complaint and to stay proceedings pending EPA's issuance of a renewal permit for the Station.[119]

H. The "Discussion Drafts"

In 2019, Petitioners obtained from EPA, under FOIA, copies of so-called "discussion drafts" containing a few pages of NPDES permit provisions; these pages were neither released for public comment nor added to the Administrative Record

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[116] Att. 11 (AR-1701; permit transfer/modification). While the modification states that the 1992 Permit was transferred to "GSP Merrimack LLC," the Permit states that is issued to "Granite Shore Power Merrimack LLC." GSP Merrimack LLC is a subsidiary of Granite Shore Power LLC.

[117] 33 U.S.C. § 1365(a).

[118] Att. 42 (AR-1755; Notice of Intent to Sue).

[119] Att. 43 (Memorandum Order, ECF Doc. 33 in *Sierra Club, Inc., et al. v Granite Shore Power LLC, et al.*, 19-cv-216-JL).

until after the final Permit was issued in May 2020.[120] In a January 7, 2020 letter to the Region, Petitioners stated, *inter alia*:

> EPA should proceed to issue a final NPDES permit for Merrimack Station with thermal discharge requirements matching those in EPA's 2011 and 2014 drafts. If, however, EPA proposes to depart from its previous drafts and issue a permit fundamentally different from what it proposed twice before, the agency must subject the new draft thermal discharge requirements — as well as any new evidence, rationale, and conclusions — to public notice and comment. A permit resembling the "discussion draft" recently exchanged between EPA and 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.[121]

The Region did not respond or reopen the public comment period.

I. The Final 2020 Permit

The Region issued the Permit as a final NPDES permit on May 22, 2020.[122] In contrast to the 2011 and 2014 draft permits, the Permit's thermal discharge conditions are based on a new § 316(a) variance from both technology-based and water-quality-based requirements.[123] Thus, unlike the drafts, the Permit does not set BAT-based thermal discharge limits and does not set any limit on MBTUs that the Station may discharge to the Hooksett Pool. Nor does it require compliance

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[120] Atts. 29–34 (AR-1785, AR-1788, AR-1870, AR-1879, AR-1882, AR-1892).

[121] Att. 35 (AR-1688) at 23.

[122] Att. 1; *see also* Att. 2 (cover letter).

[123] RTC at I-9 – I-10; *see also id*. at II-308 – II-309.

with water quality standards.

Notably, in issuing the 2020 Permit, the Region reaffirmed its 2011 determination that, running as a "baseload"[124] plant, the Station does *not* meet the standard for a § 316(a) variance. Specifically, in the RTC, the Region reiterated that its 2011 denial of the § 316(a) variance application was based on "compelling evidence of appreciable harm to the balanced, indigenous fish community of Hooksett Pool"[125] and "EPA maintains that rejection of the applicant's original variance request is appropriate because continuing baseload operations with open-cycle cooling would not satisfy § 316(a)."[126] "This has not changed."[127] Further, the Region never wavered from its 2011 determination that CCC constitutes BAT for reducing the Station's thermal discharges.

Nevertheless, in 2020 the Region granted a § 316(a) variance and established alternative thermal limits, explaining that it did so because the Station no longer

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[124] The Region described a "baseload power plant" as one that "operate[s] on a near-constant basis, with the exception of regularly scheduled maintenance outages." RTC at II-11.

[125] RTC at II-10.

[126] *Id*. at II-13.

[127] *Id*. at II-300; *see also id*. at II-74 ("EPA maintains that the information available at the time of the Draft Permit demonstrates that the plant caused or contributed to prior appreciable harm as a result of the thermal discharge from the plant's baseload operations."); *id*. at II-106 ("EPA retains its conclusions about PSNH's retrospective demonstration"); *id*. at II-327 ("EPA notes . . . that it has not changed its decision on PSNH's earlier application seeking renewal of the CWA § 316(a) variance underlying the 1992 Permit. EPA rejected that request before and has not changed its decision on that.").

operates as a baseload power plant, but has in recent years operated "as a 'peaking plant' that generates electricity only during peak demand periods that typically occur in the winter and the summer."[128]

Instead of heat load limits, Part I.A.11 of the Permit contains "in-stream temperature limits." The "Compliance Point" for these limits is not, however, at or near the Station's discharge canal, but at Station S4 (also referred to as "S-4"), approximately 2,000 feet (0.4 miles) downstream from the discharge canal.[129]

The primary in-stream temperature limits are Weekly-Average temperatures (also referred to as "chronic" limits) and Daily-Maximum temperatures ("acute" limits) which vary across "Effective Periods" each year, as follows:

Ambient Characteristic	**Effective Period**	**Discharge Limitations**	
		Weekly Average	**Daily Maximum**
S4 Temperature	Jan 1 – Mar 31	8.0°C 46.4°F	Report °C Report °F
S4 Temperature	Apr 1 – Apr 30	12.0°C 53.6°F	Report °C Report °F
S4 Temperature	May 1 – May 31	18.0°C 64.4°F	29.3°C 84.7°F
S4 Temperature	June 1 – June 21	22.7°C 72.9°F	30.9°C 87.6°F
S4 Temperature	Jun 22 – Jul 31	25.1°C 77.2°F	31.3°C 88.3°F
S4 Temperature	Aug 1 – Sep 30	25.1°C 77.2°F	Report °C Report °F

[128] RTC at II-11.

[129] Permit, Part I.A.11; RTC at II-131.

S4 Temperature	Oct 1 – Oct 31	25.1°C 77.2°F	Report °C Report °F
S4 Temperature	Nov 1 – Dec 31	8.0°C 46.4°F	Report °C Report °F
Rise in Temperature		2.0°C 3.6°F	———
Capacity Factor	May 1 – Sep 30	40%	———

There are no Daily Maximum limits for August through April. The Permit exempts the Station from compliance with the Weekly Average limits from May 1 to September 30 if the Station operates at a capacity factor of 40% or lower, measured on a 45-day rolling average.[130] Part I.A.11 requires the Permittee to submit average and maximum daily in-stream temperature data for Stations N10, S0, and S4 to EPA as an attachment to its monthly discharge monitoring reports.[131]

The Permit does not contain the narrative effluent limitations on the Station's thermal plumes that were in the 1992 Permit and the 2011 and 2014 draft permits. The Permit retains the prohibition against violations of water quality standards.[132] In the RTC (but not in the Permit itself), the Region stated that such prohibition should no longer pertain to "thermal-related" water quality standards.[133]

[130] Permit, Part I.A.11, footnote 6.

[131] *Id.*, Part I.A.11, footnote 5.

[132] *Id.*, Part I.A.12.

[133] RTC at II-307, II-309, II-332.

V.

STANDARD OF REVIEW

The EAB applies the standard of review set forth in 40 C.F.R. § 124.19(a)(4): whether the decision was based on "[a] finding of fact or conclusion of law that is clearly erroneous" or "[a]n exercise of discretion or an important policy consideration that the Environmental Appeals Board should, in its discretion, review."[134]

When evaluating a permit decision for clear error, the Board examines the administrative record to determine whether the permit issuer exercised "considered judgment."[135] The permit issuer must articulate with reasonable clarity the reasons supporting its conclusions and the significance of the crucial facts it relied on.[136] As a whole, the record must demonstrate that the permit issuer "duly considered the issues raised in the comments" and followed an approach that "is rational in light of all information in the record."[137]

In reviewing the Region's exercise of discretion, the Board applies an abuse of discretion standard.[138] "[A]cts of discretion must be adequately explained and

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[134] 40 C.F.R. § 124.19(a)(4)(i).

[135] *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417 (EAB 1997).

[136] *Id*.

[137] *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D 323, 342 (EAB 2002) *("D.C. MS4")*.

[138] *In re Guam Waterworks Auth.*, 15 E.A.D. 437, 443 at n.7 (EAB 2011).

justified" in the record.[139] "The Board has, in the past, remanded permits because they have not provided such an adequate rationale."[140] When a "permitting authority provides inconsistent or conflicting explanations for its actions, the Board frequently concludes that the Region's rationale is unclear and remands for further clarity."[141]

Moreover, under § 124.19(a)(4)'s "conclusion of law that is clearly erroneous" standard, where a permit "does not meet minimum regulatory [or statutory] requirements," remand of the relevant portions of the permit "is necessary."[142]

VI.

SUMMARY OF ARGUMENT

The Board should review and remand the Permit's thermal discharge conditions and determinations in order to correct the Region's critical substantive and procedural errors.

First, the Region clearly erred by not subjecting Part I.A.11 to public notice and comment, as it is not a "logical outgrowth" of the draft permits. Nothing in the draft permits or the public notices alerted the public that the Region might not only

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[139] *See In re Ash Grove*, 7 E.A.D. at 397; *see also Motor Vehicles Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 48 (1983) ("[A]n agency must cogently explain why it has exercised its discretion in a given manner.").

[140] *In re D. C. Water and Sewer Auth.,* 13 E.A.D. 714, 764 n.79 (EAB 2008) (citations omitted).

[141] *In re Chukchansi Gold Resort*, 14 E.A.D. 260, 280 (EAB 2009).

[142] *See D.C. MS4*, 10 E.A.D. at 346.

reverse its decision to reject the § 316(a) variance application, but also that it would: (i) grant a § 316(a) variance from *both* technology-based and water-quality-based standards (as opposed to granting a variance from technology-based standards and basing permit limits on WQS); (ii) choose Station S4, downriver, as the sole compliance point for all instream temperature limits; (iii) exempt the Station from any chronic limits from May through September if the Station operates at a capacity factor that is far higher than its actual operations; (iv) include no acute limits for August through October; and (v) ignore critical components of the BIP and the low-flow conditions that the Region had focused on in 2011. But the Permit does all of that, without affording an opportunity to meaningfully comment on EPA's reversal in permitting approach.

Further, Part I.A.11 is based on arbitrary and clearly erroneous findings and conclusions, and will not assure protection of the BIP as required by § 316(a). By altering compliance points, compliance schedules, and effective periods, EPA weakened the instream temperature limits such that they no longer adhere to the parameters it previously determined were necessary to protect fish. Further, by exempting the Station from those limits during May–September if electricity generation does not exceed 40% capacity on a 45-day rolling average, the Region left the BIP completely unprotected from impactful periods where the Station's thermal plume causes river temperatures to exceed safe levels in summer. Significantly, the exempted months are exactly when temperature limits are most needed due to low river flows and high ambient temperatures. The Permit also fails to protect fish

from "cold shock" in winter, and EPA completely ignored available data on the rate of temperature drop after Station shutdowns.

Next, the Region clearly erred by removing from the Permit the three narrative effluent limitations on the Station's thermal plumes that are in the 1992 Permit and were in the 2011 and 2014 draft permits. The Region gave no indication in its public notices that those limitations might be removed. Moreover, their removal violates the CWA's anti-backsliding rule codified in CWA § 402(o). Although the Region attempts to argue that an exception to anti-backsliding in § 402(o)(2) applies, the "safety clause" in § 402(o)(3) provides an absolute prohibition against relaxing effluent limitations to allow violations of WQS. Moreover, § 316(a) also prevents removal of those limitations because, in their absence, the Permit fails to assure protection of the BIP.

The Board should also review the Region's attempt to limit Part I.A.12 of the Permit to non-thermal WQS. EPA gave no notice that it was considering taking that position. In any event, the Region lacks the legal authority to limit Part I.A.12 in such fashion due to the anti-backsliding safety clause in § 402(o)(3), and, further, it cannot alter the plain meaning of an unambiguous permit condition through an extrinsic statement in a response to a comment.

Finally, the Board should review and remand the Region's decision not to set more stringent case-by-case BAT limits for combustion residual leachate discharges. CWA § 301 requires all industrial dischargers to meet permit limits reflecting BAT. In the absence of national guidelines determining BAT, the Region must set BAT

limits case-by-case using its best professional judgment. Here, the Fifth Circuit Court of Appeals recently vacated EPA's national BAT guidelines for leachate, which were based on EPA's 1982 BPT standards, because it found them to be unlawful and inadequately protective. However, in a bold and arbitrary act of defiance of the Fifth Circuit's decision, the Region unlawfully adopted the same inadequate 1982 BPT standards for Merrimack.

VII.

ARGUMENT

A. The Permit's Thermal Discharge Conditions Should Be Reviewed and Remanded.

The Station's thermal plumes are harmful to aquatic life in Hooksett Pool. This was true when the Station ran more continuously, and remains true today because the same or similar detrimental conditions still occur frequently, both in summer and winter. The Permit fails to impose legally-required limitations to prevent continuation of those harms and assure protection of the River's fish, shellfish, and wildlife.

1. Part I.A.11 Was Not Subject to Public Notice and Comment, Is Based on Arbitrary and Clearly Erroneous Findings and Conclusions, and Will Not Assure Protection of the BIP.

As noted, Part I.A.11 sets weekly-average (chronic) and daily-maximum (acute) instream temperature limits to be measured at Station S4, and then exempts the Station from compliance with the chronic limits if its 45-day rolling average capacity factor does not exceed 40%. The Region clearly erred by:

(a) issuing Part I.A.11 for the first time in a final permit, and (b) finding that Part I.A.11 will assure protection of the BIP.

a. The Region Clearly Erred by Not Issuing Part I.A.11 in a Revised Draft Permit for Public Comment.

The Administrative Procedure Act ("APA") and the CWA require public notice and comment on NPDES permits.[143] The test applied by federal courts and the EAB is whether the final permit is a "logical outgrowth" of the draft permit.[144] "The essential inquiry focuses on whether interested parties reasonably could have anticipated the final [permit] from the draft permit."[145]

Here, the Permit is not a logical outgrowth of the drafts, and interested parties could not have reasonably anticipated Part I.A.11's thermal discharge conditions. The issue is *not* whether one could anticipate that EPA might ultimately grant a § 316(a) variance or take into account the Station's recent reduced operations. Rather, the issue is that the conditions in Part I.A.11 are both wholly new and in direct and irreconcilable conflict with the draft permits, the public notices, and the Region's own prior findings and determinations.

The Region claims that it did not reopen the comment period because it "thinks that conditions like those in the Final Permit could have been predicted

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[143] 5 U.S.C. § 553(b), (c); 40 C.F.R. §§ 124.6(d), (e), 124.10(a)(1)(ii).

[144] *See S. Terminal Corp. v. EPA*, 504 F.2d 646, 659 (1st Cir. 1974); *D. C. Water and Sewer*, 13 E.A.D. at 762.

[145] *NRDC, Inc. v. EPA*, 279 F.3d 1180, 1186 (9th Cir. 2002) (internal quotation marks omitted).

based on the information EPA presented previously to the public."[146] That is not so. In 2011 EPA proposed a BAT-based permit, and also stated that it was considering granting a § 316(a) variance *from the technology-based standard* and instead setting *water-quality-based* limits in the permit. But in 2020 it unexpectedly granted a § 316(a) variance from *both* technology-based *and* water-quality-based standards. Although the Region contends that the 2011 Determinations alerted the public that it was "still considering the alternative of setting water quality-based thermal discharge limits designed to maintain various instream temperatures based on critical temperatures for various life stages of resident fish species,"[147] the Permit does not follow *either* its proposed approach *or* that alternative approach.

Specifically, EPA relies on Section 9.5 the 2011 Determinations for its "reasonably anticipated" argument.[148] There, the Region summarized the criteria that thermal discharge limits must meet to satisfy state water quality standards, and stated that the "discharge limits that [EPA] has determined satisfy these criteria . . . may also satisfy the criteria of CWA § 316(a)."[149] "If so," it continued, "EPA would be legally authorized to include the above-discussed water quality-based limits in the permit, instead of the more stringent technology-based limits."[150]

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[146] RTC at II-326.

[147] *Id*. at II-326 – II-327 (citing 2011 Determinations at 214–17).

[148] 2011 Determinations at 216.

[149] *Id*.

[150] *Id*.

The Region further explained:

> EPA has considered making such an independent CWA § 316(a) variance determination in this case – *i.e., including the water quality-based thermal discharge limits to satisfy water quality requirements based on a variance from technology-based requirements* under § 316(a). EPA ultimately decided, however, not to take this approach for the Draft Permit . . . . EPA hereby provides express notice that it plans to further consider this approach for the Final Permit . . . . EPA will also, of course, be considering *whether the technology-based limits included in the Draft Permit should be retained for the Final Permit*.[151]

The Region thus gave notice that it was considering two options: either retaining the technology-based limits (which it found were also strict enough to meet WQS), or imposing thermal discharge limits to satisfy WQS (based on a variance from technology-based requirements under § 316(a)). The Region did *not* give notice that it was considering granting a variance from *both* technology-based standards *and* WQS and thereby including in the final permit thermal discharge limits *less stringent* than required by both types of standards.

But that is what EPA did, wholly unexpectedly, in the Permit. As this Board has held, "[s]uch an about-face is not a logical outgrowth of the original proposal."[152] Rather, it is an illegal "surprise switcheroo."[153] That alone is sufficient ground to remand the Permit. Yet the surprise switcheroos do not end there.

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[151] *Id*. at 217 (emphasis added).

[152] *D. C. Water and Sewer,* 13 E.A.D. at 762.

[153] *See, e.g., Riverkeeper, Inc. v. EPA*, 475 F.3d 83, 116 (2d Cir. 2007) ("An agency cannot 'pull a surprise switcheroo' on interested parties between a proposal and the issuance of a final rule.") (citation omitted).

In 2011 EPA stated that the water-quality-based limits it was considering would set the compliance point for acute limits at Station S-0, at the end of the discharge canal.[154] Instead, the Permit unexpectedly uses Station S-4, downriver, as the compliance point for all temperature limits.[155] This significant change could not be predicted because the Region was unequivocal, in 2011, that acute limits must be met at the discharge point, not downriver, because "the highest water temperatures from the plant exist closest to the discharge point, [and] the potential for the thermal plume to cause acute lethality or impairment to drifting organisms, such as fish larvae, is most likely to occur in the waters near the discharge."[156] Although the Region now contends that its 2011 Determinations stated that, under the alternative approach, "water temperatures would be measured either at the end of the discharge canal (Monitoring Station S0) or at downstream, monitoring location Station S4),"[157] in fact, that document clearly stated that the *acute* temperature limits must be met at S-0; none of the acute limits were to be measured at S-4.[158]

The Region's decision to exempt the Station from temperature limits during the warmest five months, May–September, was similarly unforeseeable. Although

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[154] 2011 Determinations at 209 (Table 8-5), 213 (Table 9-2), 215 (Table 9-3), 216–17.

[155] Permit, Part I.A.11.

[156] 2011 Determinations at 83.

[157] RTC at II-327.

[158] 2011 Determinations at 212–13 & Table 9-2.

the Region invited comment in 2017 on whether it should take reduced Station operations into account, there was no suggestion that EPA might use a capacity factor test to completely exempt the Station from all chronic temperature limits, particularly if that capacity factor is set so high that the Station could significantly ramp up its operations from current levels without violating the Permit or being subject to temperature limits—especially during the hottest, driest months.

Petitioners were therefore denied a meaningful opportunity to comment on Part I.A.11 and on the Permit's approach to thermal discharge limits. Indeed, in 2020, when Petitioners happened to discover that the Region and the Permittee were exchanging "discussion drafts" of permit provisions that had not been shared with the public, they asked the Region for an opportunity to comment on a new draft permit. They explained that, given a public comment opportunity, they "intend to engage technical experts to review the permit provisions and EPA's supporting rationale for proposing them, and to submit comments based on their evaluation."[159] Petitioners also provided a list of possible issues warranting public comment, if the new proposed permit were to include requirements similar to those in the "discussion drafts."[160] The Region did not provide Petitioners and the general public the required opportunity for public comment, and the Permit should be remanded on that basis.[161]

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[159] Att. 35 (AR-1688) at 20.

[160] *Id*. at 20–22.

[161] The Region comes close to suggesting that Petitioners' discovery of the "discussion drafts" through FOIA and their letter requesting an opportunity to

b. Part I.A.11 Will Not Assure Protection of the BIP.

As a result of these changes, not only were Petitioners deprived of their participation rights, and not only does the Permit fail to achieve compliance with either technology-based or water-quality-based standards, but the thermal discharge limits in Part I.A.11 also fail to assure protection of Hooksett Pool's BIP.

i. The Region Erred by Moving Compliance Points, Lengthening Compliance Schedules, and Shortening Effective Periods for the Instream Temperature Limits.

As noted above, in 2011 the Region determined protective maximum temperatures for a variety of fish species and life stages for the times of year when these organisms are expected to be present, and concluded that those temperatures must be maintained in the river.[162] For each temperature value, the Region assigned a "Compliance Point" (a location in the river), a "Compliance Schedule" (weekly-average or hourly-maximum), and a "Time Period" (when the limits must

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comment should itself qualify as public notice and public comment, but stops short of this argument. *See* RTC at II-326. For reasons that should be obvious to EPA, a FOIA request and letter requesting an opportunity to comment cannot substitute for formal compliance with the APA's public-notice-and-comment requirements. Moreover, there were multiple versions of the "discussion drafts," containing only portions of a draft permit, without explanatory rationale, and no indication which version, if any, EPA might settle on, when that might happen, whether there would be further changes, or whether EPA would accept comments outside a comment period. *Fertilizer Inst. v. EPA*, 935 F.2d 1303, 1312 (D.C. Cir. 1991) (quotation omitted) ("[T]he EPA must itself provide notice of a regulatory proposal. Having failed to do so, it cannot bootstrap notice from a comment.")

[162] 2011 Determinations at 212–14 & Table 9.2.

be met).[163]

The Permit, however, does not require the Station to meet those maximum protective temperatures; Part I.A.11 deviates from them in several significant respects. Individually and in combination, these departures from the temperature limits the Region determined in 2011 were necessary to protect fish render Part I.A.11 incapable of doing so. For example, moving the compliance point downriver eliminates protection against acute mortality for fish and other organisms that drift past or enter the discharge canal, in direct contravention of EPA's own finding that "[s]ince the highest water temperatures from the plant exist closest to the discharge point, the potential for the thermal plume to cause acute lethality or impairment to drifting organisms, such as fish larvae, is most likely to occur in the waters near the discharge."[164]

The Region's proffered justification for measuring compliance only at monitoring station S-4 is that this constitutes what it calls a "'mixing zone' in the generic sense."[165] As EPA admits, the State of New Hampshire has not delineated a mixing zone for the Permit,[166] nor could one be delineated in the absence of "scientifically valid documentation" that certain criteria are met.[167] One criterion is

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[163] *Id*.

[164] 2011 Determinations at 83.

[165] RTC at II-117.

[166] *Id*.

[167] N.H. Code R. Env-Wq §§ 1707.01, 1707.02.

that any such mixing zone must be a "defined area,"[168] *i.e.*, not a single point. Another is that any mixing zone must allow "a zone of passage for swimming and drifting organisms."[169] Further, as the Electric Power Research Institute noted in its comments, thermal effects from acute mortality cannot be based on a mixing zone (because the mortality would occur before mixing could sufficiently reduce temperatures).[170] And, as EPA is aware, "to satisfy § 316(a), any . . . mixing zone would have to be designed to assure the protection and propagation of the BIP."[171] EPA's "generic mixing zone" is untethered from these criteria and will not protect important aspects of the BIP, which include not only fish at all their life stages (including eggs, larvae, and juveniles) that may swim or drift in or near the discharge, but also plankton, "which are important forage for larval and juvenile fish."[172]

Moreover, the Region's explanation as to why the sole compliance point is at S4 (as opposed to some other location in Hooksett Pool), and whether this location is sufficiently protective, is likewise inadequate. EPA states that it chose S4 "because Station S4 is *intended to be representative* of ambient river temperatures in Hooksett Pool downstream of the temperature probe, including nearshore spawning

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[168] *Id*. § 1702.26.

[169] *Id*. § 1707.02.

[170] RTC at II-115.

[171] 2011 Determinations at 23 (citing 39 Fed. Reg. at 36,178).

[172] *Id*. at 120.

habitat."[173] But *intending* it to be representative is not the same as having a sufficient basis to establish that S4 is, in fact, representative of all of the locations in the Hooksett Pool where aquatic organisms are affected by the Station's thermal plumes.

Furthermore, extending the compliance schedules from *hourly* maximums to *daily* maximums[174] is untenable in light of the abundant scientific evidence in the record, cited by EPA, demonstrating that acute mortality from elevated temperatures can occur within 60 minutes and, in some cases, 10 minutes or less.[175] Similarly, eliminating the acute limits after July 31[176] contradicts the Region's own determination in 2011 that American shad juveniles need the protective temperatures to be maintained in August and September and yellow perch juveniles need them maintained through November 4.[177] As a result of these changes, Part I.A.11 will not protect the BIP.

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[173] RTC at II-126 (emphasis added).

[174] *Compare* Permit, Part I.A.11, *with* 2011 Determinations at 213–14 (Table 9.2).

[175] *See. e.g.,* 2011 Determinations at 88 (alewife larvae exposed to high temperature "died after only 30 minutes" and alewife eggs "suffered lethality after one hour"); 92 (temperature rises "for 10 minutes . . . were lethal to larval shad"), 93 ("juvenile American shad experienced 100-percent mortality after 4-6 minutes of exposure"); 103 ("50 percent of the fish tested died after only ten minutes of exposure"), 104 (lethality in 10-60 minutes), 187 (10-30 minutes).

[176] *Compare* Permit, Part I.A.11, *with* 2011 Determinations at 213–14 (Table 9.2).

[177] 2011 Determinations at 213.

ii. The Region Erred by Exempting the Station from All Temperature Limits During Critical Summer Months.

Even if the new temperature limits were adequate to protect Hooksett Pool's species, the Region's decision to exempt the Station from compliance with those limits is clear error. Part I.A.11 exempts the Station from compliance with all of the weekly-average limits and the rise-in-temperature limit from May through September, in any of those months when Station operations do not exceed a 40% "capacity factor," calculated as a 45-day rolling average.[178] Further, because (as discussed above) there are no acute limits after July 31, the Permit allows the Station to operate in August and September without meeting *any* instream temperature limits whatsoever.

The Region's purported explanation is that, as a "peaking" plant, the Station discharges less heat than it did previously, and the capacity factor limit is supposed to limit thermal discharges by ensuring that Station operations do not increase.[179] This claim, however, is deeply flawed, contradicts the record, and does not justify the exemption. In fact, the exemption will allow the Station's thermal discharges to elevate river temperatures above the instream temperature limits that EPA purportedly designed to protect fish. Indeed, this has occurred regularly in recent summers.

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[178] Permit, Part I.A.11 (last row and footnote 6). "Capacity factor" is the Station's actual electrical output divided by its total capacity.

[179] RTC at II-29.

Fish are, of course, not harmed by megawatts in power lines, but by water temperatures (among other things). Thus, the pertinent question is not the amount of electricity generation, but what the river temperatures will be. As EPA recognized in 2017, even as a peaker the Station "can operate a great deal during the peak demand periods that occur during cold winter conditions and hot summer conditions" and "its extensive operations during those periods can still potentially have serious environmental effects."[180] The Permit's 40%-capacity-factor/45-day-rolling-average limit allows the Station to operate at 100% capacity (*i.e.*, "at baseload," in EPA's own words) for 18 consecutive days.[181] This level of operation is particularly harmful during warm months with low river flows, as EPA itself explained: "shorter, but impactful periods could occur during the summer when the plant is in full operation during low river flow and high ambient temperature conditions."[182] Low flows make the Hooksett Pool highly susceptible to the Station's discharges because the 287 MGD of withdrawal and heated discharge is a significant proportion of (and can actually exceed) the river's available flow.[183] Importantly, as shown by U.S. Geological Survey data for the Merrimack River, low-flow conditions are most likely to occur in late summer months, including

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[180] 2017 Statement at 68–69.

[181] RTC at II-103. The capacity factor limit would likewise allow the Station to operate at 75% capacity (*i.e.*, Unit 2 at 100% and Unit 1 at 0%) for 24 consecutive days.

[182] 2017 Statement at 39–40.

[183] *See supra* at 16 & nn. 54–59.

August and September,[184] when the Permit exempts the Station from *all* temperature limits.

The Region has *not* determined that running the Station "at baseload" for 18 consecutive days with no temperature limits—as the Permit allows—would be protective of the BIP, particularly if that period is co-incident with low-flow conditions and/or high ambient temperatures in the river. Nor could EPA do so on this record without directly contradicting its own conclusions that "baseload operations with open-cycle cooling would not satisfy § 316(a)"[185] and operations during summer low-flow conditions cause extensive thermal plumes and extreme temperatures.[186]

In *Wabash*, the Board remanded a § 316(a) variance determination for "failure to consider the effects of thermal discharges under low flow conditions."[187] Here, the Region was aware that low flows in the Merrimack River cause temperatures to exceed levels protective of the BIP, but nevertheless exempted the Station from temperature limits when flows will be lowest.

Moreover, the Permit's capacity factor limit cannot even accomplish the Region's claimed goal: to keep the Station's operational profile similar to that of

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[184] Atts. 16–19 (AR-204, AR-1673–1675).

[185] RTC at II-13; *see also id*. at II-74, II-106, II-300, II-327.

[186] 2011 Determinations at 118–120.

[187] *Wabash*, 1 E.A.D. at 611.

recent years.[188] In fact, the 40% capacity factor limit would allow the Station to significantly ramp up its operations. As EPA admits, "in most years" the Station's "45-day average capacity factor was less than 40%."[189] Indeed, the operational data in the record show that the last time the Station ran at a 40% capacity factor on a 45-day rolling average on any day from May 31 to September 30 (following the formula in Part I.A.11) was in 2013; since then, its 45-day average capacity factors have always been below 22.5% and have often been closer to 10% during that period.[190] This means that the Station could frequently double, triple, or quadruple its typical capacity utilization (and thermal discharges) from the past five years without violating the Permit or being subject to temperature limits.

Worse yet, even with the Station running at those relatively low capacity factors in recent years, the temperature data in the record show that, in summer months, the Station's thermal discharges have caused river temperatures to exceed both the protective temperatures that the Region determined in 2011 are necessary to protect fish and the temperature limits in Part I.A.11. For example, the data shows that from July 5 to July 31, 2016, although its 45-day-rolling-average

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[188] RTC at II-29; *see also id*. at II-15 (limit "allows the Facility to continue operate during the summer as it has in recent years").

[189] *Id*. at II-15.

[190] Although EPA stated that it evaluated the average rolling capacity factors for 2012-2019 (RTC at II-15 n.4; *see also id*. at II-104 n.20), it did not cite to, nor does there appear to be in the record, any document showing its calculations. Petitioners therefore calculated the Station's 45-day rolling average capacity factors themselves using AR-1715, a spreadsheet in the record containing the Station's daily capacity factors from 2004 to 2018.

capacity factor stayed well below 40%, the Station ran for 16 out of 27 days at daily capacity factors ranging from 0.7% to 84.2%.[191] This level of operation caused *average* daily river temperatures at Station S4 to exceed 25.1°C for 20 of those 27 days, including for 10 consecutive days from July 22 to 31, and for 16 out of 18 days from July 14 to 31 (with the other two days being 24.98°C and 24.97°C).[192] Thus, the Permit's weekly-average temperature limit of 25.1°C for July[193] was clearly exceeded for several weeks in that month, despite the sub-40% 45-day capacity factor.[194] And similar examples abound in the record data. Thus, operating the Station for even a handful of consecutive days at certain times of year causes temperatures in Hooksett Pool to exceed protective levels for extended periods.

Accordingly, the Region's assertion that "[l]imiting the capacity will ensure that the Permittee is able to meet temperature limits that will ensure the protection of the BIP"[195] is belied by the record. There is no legitimate basis for exempting the Station from the instream temperature limits that EPA determined were necessary to protect fish, and the Region's capacity factor exemption is clear error. Reliance

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[191] Att. 13 (AR-1715) at rows 379–405.

[192] *Id*.

[193] Permit, Part I.A.11 (Row 5).

[194] Att. 13 (AR-1715) at rows 379–405. The highest temperatures in that period occurred on July 28, after the Station ran for four straight days at daily capacity factors from 64.8% to 84.2%, and reached daily maximums of 33.29°C (91.92°F) at S-0 and 24.49°C at S-4, with a daily average of 27.72°C at S-4 on that day. *Id*.

[195] RTC at II-120.

on the capacity factor limit fails to assure protection of the BIP.

iii. The Region Erred by Failing to Protect Fish from "Cold Shock" in Winter and by Reaching Conclusions on the Issue Without Any Record Support.

Yet another critical failing of the Permit is that its thermal limits fail to protect fish from "cold shock" in winter, despite the Region's identification of this as a significant issue, and even though it is much *more* significant for peaking plants than baseload plants. Remarkably, the Region did not review, analyze, or even request from the Permittee the 15-minute-interval temperature data that reveal rapid temperature declines that harm fish.

It is not only elevated temperatures that adversely affect fish. As the Region explained in 2011:

> Another concern raised by thermal discharges during the colder seasons is the risk of "cold shock." If an abrupt shutdown of power generating units occurs during winter months, . . . a rapid decline in discharge water temperature can result. Studies . . . show that acclimation to cooler temperatures . . . is considerably slower (e.g., days versus hours) than acclimation to warmer temperatures. The relatively rapid reduction in discharge temperature associated with winter shutdowns can lead to the physiological impairment of fish, and even to death.[196]

The Region reconfirmed in 2020 "that fish species which have become acclimated to artificially elevated water temperatures and then subjected to a rapid decrease in temperature may suffer stress or shock related to that rapid change."[197]

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[196] 2011 Determinations at 349.

[197] RTC at II-112.

Because baseload plants shut down only occasionally for maintenance, while peaking plants frequently start and stop operations as electricity demand fluctuates, the Station's recent operations exacerbate the risk and magnitude of cold shocks. But neither Part I.A.11 nor any other part of the Permit does anything to address such harms to the BIP. There is no limitation on how rapidly temperatures may decline or on the frequency of heat-up-and-cool-down cycles.

EPA admitted that "fish are likely to be attracted to the Facility's elevated water temperatures,"[198] and thus can be affected by cold shock in Hooksett Pool or in the Station's discharge canal, which they may enter.[199] Although the Region stated in 2011 that a "barrier net" could prevent fish from entering the canal during winter,[200] the Permit does not require its installation. The 2011 Draft Permit addressed cold shock by requiring the Station to operate with CCC in the winter months, thereby minimizing temperature increases and decreases.[201] But because the Permit allows open-cycle cooling, cold shock remains completely unaddressed.

The Region's purported justification for this deficiency is that "the potential for cold shock to occur would be limited to only those fish within the canal and not the Hooksett Pool proper where the plume's temperature drops fairly quickly as it

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[198] *Id*. at II-113.

[199] *Id*; 2011 Determinations at 349.

[200] 2011 Determinations at 349.

[201] *Id*.

comes in contact with the ambient river water and dissipates."[202] The first part of this statement is an admission that the Permit does not protect fish in the canal from cold shock. Those fish are part of the River's aquatic community. As to the second part, the Region states that "temperature drops fairly quickly," but rapid temperature decrease is exactly what causes cold shock. On its face, this is another admission. To the extent the Region means to suggest that cold shock will not occur in Hooksett Pool because temperatures do not rise and fall at sufficiently extreme rates there, the Region has not built a record to support that conclusion.

Even though abundant data on the rate of temperature decrease in the Hooksett Pool is readily available, the Region deliberately turned a blind eye and did not seek or analyze it. Specifically, the 1992 Permit requires "continuous" temperature monitoring, which the Station's owners recorded at *15-minute intervals*, although their annual reports to EPA contain only *daily* statistical summaries.[203] Petitioners and their consultants commented in 2017 that "[d]aily statistical summaries mask river temperature fluctuations over time making it impossible to see . . . large, short-term (e.g., over . . . minutes or hours) temperature variations that can harm aquatic organisms."[204] In January 2020, Petitioners inquired whether EPA had analyzed the Station's 15-minute-interval temperature

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[202] RTC at II-113.

[203] 1992 Permit, Part I.A.11.a; Att. 36 (Petitioners' letter to EPA, 5/22/20) at 1; Att. 37 (Hodge Declaration) at 2.

[204] Att. 28 (AR-1575; HydroAnalysis Inc. report, 12/11/17) at 8.

data.[205] EPA had not. Although the Region requested and received the Permittee's 15-minute data for warmer months (May–September) in certain years,[206] it never sought the data for cooler months *in any year*.

If EPA had obtained and analyzed such data on the rise and fall of temperatures in the Hooksett Pool, it would have revealed precipitous temperature declines that are harmful to aquatic life in winter. Petitioners themselves obtained the 15-minute data from the Permittee through discovery and sent it to EPA on May 22, 2020, which turned out to be the same day the Permit was signed.[207] Petitioners also provided EPA with an expert declaration explaining, *inter alia*, that, on December 14, 2018 (as one example), the rate of temperature decrease at S-0 ranged from 1.1°C per hour to 2.8°C hour.[208] Similarly, the 15-minute data shows that on November 26, 2018, temperatures at S4 dropped more than 1.5°C in 15 minutes.[209]

While such hourly (or quarter-hour) rate of change information is evident from the 15-minute data EPA ignored, it is invisible in the daily summaries the Region limited itself to. Importantly, those data reveal that temperature drops in

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[205] RTC at II-325.

[206] *See* Att. 14 (AR-1868; June–Sept. 2013–2016 data); Att. 15 (AR-1662; May–Sept. 2017 data).

[207] Atts. 36–41 (cover letter, expert declaration, and four spreadsheets).

[208] Att. 37 (Hodge Declaration) at 4-6.

[209] Att. 40 (2018 data) at rows 31617–31618.

the Hooksett Pool which might be tolerable to fish and shellfish if experienced over a full 24 hours or multiple days[210] are instead occurring over the span of a few hours or minutes. The Region's failure to obtain and analyze that data leaves no record support for a conclusion that protection against cold shock will be assured.

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As illustrated by these significant deficiencies, rather than "assuring" protection of the BIP, Part I.A.11's thermal limits will not prevent the harms they are supposed to prevent. This was clear error. As discussed above, § 316(a) provides only a "very limited exception" to the CWA's core mandate to meet technology- and water-quality-based standards, and can be utilized only when it is "beyond any question" that such standards are more stringent that necessary. In place of the "conservative approach" that is to accompany § 316(a) determinations, the Region's variance rests on wishful thinking that reductions in Station operations will address all of the appreciable harm caused by its thermal plumes. This does not come close to meeting the "assure" standard set forth in the statute. Because necessary support for the Region's determination is "altogether absent from the record,"[211] the Board should remand Part I.A.11 of the Permit to the Region.

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[210] *See* Att. 12 (AR-77; Coutant, C.C. 1970. "Biological aspects of thermal pollution. I. Entrainment and discharge canal effects." *Critical Reviews in Environmental Control* 1(3): 341-381) at 352 (reporting acclimation rates from 0.4°C to 2.5°C per day).

[211] *See D.C. MS4*, 10 E.A.D. at 343 (remanding NPDES permit where record support was lacking for region's conclusion that permit will "ensure" compliance with WQS).

2. The Region Clearly Erred by Eliminating the Narrative Effluent Limitations on the Thermal Plumes.

The Region's decision to remove from the Permit the three narrative effluent limitations on the thermal plume that are in the 1992 Permit should be reviewed and remanded for three reasons. First, no public notice of that decision was given. Second, it is prohibited by the CWA's anti-backsliding rule. Third, in the absence of those limitations, the Permit fails to protect the BIP.

a. The Region Erred by Failing to Reopen the Public Comment Period Before Removing the Limitations.

The 2011 and 2014 draft permits not only retained the three narrative effluent limitations from the 1992 Permit, but also proposed a fourth: the thermal plumes "shall . . . not cause acute lethality to swimming or drifting organisms, including those entering the discharge canal at Outfall 003."[212] After all the public comment periods closed, the Region decided to remove those conditions from the Permit and failed to give public notice and an opportunity for comment on that decision. Interested parties could not have reasonably anticipated such a turnabout, not only because the limitations were in all previous versions of the permit, but also because the aspects of water quality and BIP protection that the narrative limitations are designed to achieve (such as protection of habitat in shallow shoreline areas, zones of fish passage, and protection against acute mortality for swimming and drifting organisms) were so central to the Region's

[212] 2011 Draft Permit & 2014 Revised Draft Permit, Part I.A.23.

thermal analysis and determinations throughout the re-permitting process.[213] Because Petitioners "could not have reasonably anticipated that the Region would delete" the narrative effluent limitations, "the [f]inal Permit was not a logical outgrowth of the language in the previous draft and, accordingly, [Petitioners] were denied the opportunity to provide meaningful comments on the issue."[214]

b. The Anti-Backsliding Rule Prohibits Removal of the Narrative Effluent Limitations.

The Region's removal of the narrative thermal plume limitations also constitutes impermissible backsliding. The CWA prohibits "backsliding": *i.e.*, relaxing effluent limitations in existing NPDES permits.[215] This prohibition, "consists of three main parts: (1) a prohibition on specific forms of backsliding, (2) exceptions to the prohibition, and (3) a *safety clause* that provides an *absolute limitation* on backsliding."[216]

The first part, § 402(o)(1), provides that "a permit may not be renewed, reissued, or modified . . . to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit."[217] This

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[213] *See, e.g.*, 2011 Determinations at 37-39, 83, 119,

[214] *D.C. Water and Sewer*, 13 E.A.D. at 762.

[215] 33 U.S.C. § 1342(o).

[216] Att. 22 (AR-746; NPDES Permit Writers' Manual) at 7-2 (second emphasis added).

[217] 33 U.S.C. § 1342(o)(1).

prohibition applies to water-quality-based effluent limitations.[218] While the second part includes certain exceptions to the prohibition, those exceptions are tightly constrained by the third part. The third part, § 402(o)(3), provides that "In no event may such a permit to discharge into waters be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 1313 of this title applicable to such waters."[219] As the EAB has explained, "even if one of the exceptions to the backsliding prohibition . . . is applicable and its conditions met, section 402(o)(3) acts as a floor on the extent to which effluent limits may be relaxed."[220] In other words, it provides an "ultimate backstop" on *how far* a permit can backslide.[221] Thus, if a renewed (or modified) permit does not ensure compliance with applicable water quality standards, it violates the safety clause backstop in § 402(o)(3). Here, the Region has completely eliminated effluent limitations from the 1992 Permit that ensured compliance with applicable water quality standards,[222] and thus has committed impermissible backsliding.

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[218] *Id*. (applying prohibition to "effluent limitations established on the basis of section 1311(b)(1)(C) or section 1313(d) or (e) of this title").

[219] 33 U.S.C. § 1342(o)(3).

[220] *In re City of Ruidoso Downs & Village of Ruidoso Wastewater Treatment Plant,* 17 E.A.D. 697, 705 (EAB 2019).

[221] *Id*. at 704, 722, 732; Permit Writers' Manual at 7-4.

[222] Att. 5 (AR-112 1992 Fact Sheet) at 10 (referring to them as "effluent limitations and special conditions imposed [to] assure satisfaction of New Hampshire Water

Nonetheless, the Region claims that the Permit's thermal discharge limits are "not less stringent" than those in the 1992 Permit.[223] This is incorrect, for two critical reasons. First, backsliding plainly occurs when narrative effluent limits are eliminated even if new "specific [numeric] temperature and operational limits" are added. Thus, even if the *numeric* effluent limitations were not less stringent, the *narrative* thermal plume effluent limitations—which protect certain aspects of the BIP—undeniably have been made less stringent by their removal from the permit. Second, since the Permit exempts the Station from the new temperature limits in summer months (as discussed above), those limits are less stringent in that respect than the temperature and operational limits in Part I.A.11.b of the 1992 Permit, which require operation of the power spray modules whenever certain temperatures are exceeded, without any such exemption.[224]

Nor does an exception to the anti-backsliding rule help the Region's argument, because of the safety clause's ultimate backstop. The Region points to § 402(o)(2)(D) and argues that a subsequent permit can be less stringent where the permittee has received a permit modification under § 316(a).[225] However, because

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Quality Standards for the Merrimack River"); *see also* RTC at II-308 (referring to the limitations as "narrative, water quality-based provisions").

[223] RTC at II-319; *see also id*. at II-301, II-332 – II-333.

[224] *Compare* 1992 Permit, Part I.A.11.b, *with* Permit, Part I.A.11.

[225] RTC at II-333. In fact, the permittee did *not* receive a "modification" but rather a "renewal." Congress in § 402(o) distinguished among permit "renewal," "reissuance," and "modification." *Compare* § 402(o)(1) *with* § 402(o)(2)(D).

the removal of the 1992 Permit's narrative provisions allows violation of water quality standards, the Permit nevertheless violates the "safety clause" in § 402(o)(3), the "*absolute limitation* on backsliding."[226]

Here, the Region granted a § 316(a) variance not only from technology-based standards but also from water-quality-based standards.[227] This differs from the 1992 Permit, where the Region granted a § 316(a) variance from technology-based standards, but explicitly required compliance with WQS and imposed the narrative effluent limitations relative to the thermal component of the discharge to "assure satisfaction of New Hampshire Water Quality Standards for the Merrimack River."[228] In their absence, the Permit now allows the Station's thermal plume to violate those water quality standards. Accordingly, even if the Region may grant a § 316(a) variance, the Permit as issued here fails to ensure compliance with water quality standards, and this is explicitly prohibited by § 402(o) because the prior permit required such compliance.

c. In the Absence of the Narrative Effluent Limitations, the Permit Does Not Assure Protection of the BIP.

In the absence of the narrative limitations, the Permit also fails to assure BIP protection. As discussed above, the Permit's new thermal limits are not

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[226] Permit Writers' Manual at 7-2 (emphasis added).

[227] *See supra* at 30 n.123.

[228] Att. 5 (AR-112; 1992 Fact Sheet) at 10.

sufficient to assure protection of the BIP.[229] The record evidence and the Region's own statements show the narrative thermal limitations are necessary (although not alone sufficient) to assure protection of the BIP. For example, as the Region explained at length in the 2011 Determinations, diadromous fish that pass into and through the Hooksett Pool are an important component of the Hooksett Pool's BIP.[230] In addition, shallower areas along the shorelines that can be affected by the thermal plumes are important habitat for juvenile fish.[231] The narrative limitations were designed to protect those aspects of the BIP and cannot be eliminated while still assuring its protection. The Region has not explained how it will protect these aspects of the BIP without these limits, particularly given EPA's own findings that the Station's thermal plumes extend across the entire width of Hooksett Pool in summer[232] and the data showing that allowing the Station to run at 100% capacity for 18 consecutive summer days causes temperatures at S-4 to exceed maximum protective levels for extended periods.[233] Thus, by deleting the narrative limitations, the Region also ran afoul of § 316(a).

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[229] *See supra* at 44-57.

[230] 2011 Determinations at 33.

[231] *Id*. at 39, 119.

[232] *Id*. at 38–39, 119.

[233] *See supra* at 51-52.

3. The Region Clearly Erred by Purporting to Limit Part I.A.12 of the Permit to Non-Thermal-Related Water Quality Standards.

The Permit, at Part I.A.12, states in relevant part:

> Discharges . . . from Merrimack Station shall not cause a violation of the water quality standards of the receiving water.

This condition is similar to Part I.A.I.b of the 1992 Permit, which states, in part: "The discharges . . . shall not violate applicable water quality standards." As the Region notes, "this type of provision is common in EPA permits."[234] For example, they appear in NPDES permits for the Schiller, Newington, and Kendall power plants.[235] The Region proposed the provision in the 2011 and 2014 draft permits and retained it in the Permit, but then attempted to undercut its scope by stating—in the RTC, but not the Permit itself—that it "pertains to New Hampshire's water quality standards other than thermal discharges."[236]

The Region's attempt to qualify Part I.A.12 in this manner should be reviewed and remanded because the Region did not subject its decision to public notice and comment and it is also precluded by the anti-backsliding rule. Furthermore, even if the Region had the authority under the CWA to make this condition less stringent, an extrinsic statement in response to a comment cannot change the plain meaning of an unambiguous permit condition like Part I.A.12.

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[234] RTC at II-332.

[235] *Id.*, II-330.

[236] RTC at II-307; *see also id.*, II-309 ("non-thermal water quality considerations"), II-332 ("not to address thermal standards or issues").

a. The Region Erred by Failing to Reopen the Comment Period Before Attempting to Limit Part I.A.12.

The Region did not alert the public that it might decide to limit the prohibition against violating WQS only to "non-thermal" standards. To the contrary, as discussed above, EPA stated in 2011 that it was considering either requiring compliance with the technology-based BAT standard or granting a § 316(a) variance and requiring compliance with WQS. Nor did the 2014 or 2017 notices give any such indication. The statements in the RTC were, therefore, wholly unanticipated, Petitioners were denied the opportunity to provide meaningful comments, and the decision to limit Part I.A.12 should be remanded on that basis.

b. The Anti-Backsliding Rule Prohibits the Region from Narrowing Part I.A.12.

Part I.A.1.b in the 1992 Permit ensures compliance with water quality standards. As discussed above, the anti-backsliding rule prohibits permit writers from relaxing water-quality-based effluent limitations in subsequent permits, and even where an exception applies, §402(o)(3)'s safety clause prohibits less stringent limitations that allow violations of WQS.[237] CWA § 402(o) therefore prohibits EPA from narrowing Part I.A.12 in a manner that no longer requires compliance with certain WQS. The Region's decision should also be remanded on that basis.

c. The Region May Not Alter the Plain Meaning of a Permit Provision Through Extrinsic Statements.

Furthermore, even if it had given public notice and had authority under the

[237] *See supra* at 59-62.

CWA to narrow Part I.A.12, in order to effectuate that change, EPA would have had to *revise the Permit language itself* rather than attempt to limit the scope of Part I.A.12 merely through a response to comment.

It is blackletter law that courts interpret provisions of a NPDES permit as they would a contract.[238] Accordingly, "NPDES permit terms are to be given their ordinary meaning" and where a permit term "is plain and capable of legal construction, the language alone must determine the permit's meaning."[239] Only if a permit provision is ambiguous, does a court go "beyond the four corners"[240] of the permit and "look to extrinsic evidence to determine the correct understanding of the permit."[241] EPA's administrative law judges and the EAB apply this same approach.[242]

There is no ambiguity in Part I.A.12. In requiring that "[d]ischarges . . . from

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[238] *NRDC, Inc. v. Cty. of L.A.*, 725 F.3d 1194, 1204 (9th Cir. 2013).

[239] *Id.* at 1205 (quoting *Klamath Water Users Protective Ass'n v. Patterson*, 204 F.3d 1206, 1210 (9th Cir. 1999) and *Piney Run Pres. Ass'n v. Cnty. Comm'rs*, 268 F.3d 255, 270 (4th Cir. 2001)).

[240] *NRM Corp. v. Hercules, Inc.*, 758 F.2d 676, 682 (D.C. Cir. 1985).

[241] *Piney Run*, 268 F.3d at 270 (citation omitted).

[242] *In re E.I. du Pont de Nemours*, 2005 EPA ALJ Lexis 20, at *29–*31 (E.P.A. March 29, 2005) (interpreting consent decree and quoting *NRM*, 758 F.2d at 682: "Only if the court determines as a matter of law that the agreement is ambiguous will it look to extrinsic evidence of intent to guide the interpretive process."); *Brayton Point I,* 12 E.A.D. at 631 n.226 (interpreting water quality certification and stating: "we typically do not consider information and/or documents outside the four corners of the certification document where the certification letter itself are unambiguous") (citing *In re City of Fitchburg*, 5 E.A.D. 93, 98 (EAB 1994)).

Merrimack Station shall not cause a violation of the water quality standards of the receiving water," the Permit does not limit the prohibition to only some types of water quality standards and not others. Rather, it explicitly refers to "the water quality standards of the receiving water." Further, as noted, similar provisions appear in many EPA permits. Its meaning is well known and not capable of multiple interpretations. Thus, neither a court nor the Board can or should look beyond the four corners of the Permit to the extrinsic statements in the RTC purportedly narrowing this standard provision.[243]

The Board should therefore find that the Region erred by not reopening the public comment period and by violating the anti-backsliding rule, and should interpret Part I.A.12 as applying to "the water quality standards of the receiving water," rather than only some of those WQS.

4. The Board Should Review the Important Policy Considerations Arising from the Region's Permitting of Thermal Discharges.

As discussed above, the Permit's thermal conditions and the Region's thermal determinations deviate quite substantially and in numerous respects not only from the 1992 Permit, the 2011 Draft Permit, and the 2014 Revised Draft Permit, but also from many other NPDES permits issued by EPA Region 1 to power plants in

[243] Furthermore, those RTC statements are vague. While some WQS refer to temperature, others refer to aspects of water quality that are affected by heat and other parameters. *See, e.g.,* N.H. Code R. Env-Wq §§ 1703.01, 1703.03, 1703.07, 1703.19. EPA's last-minute extrinsic statements do not distinguish which WQS it believes are "non-thermal."

New England.[244] As the Region now purports to embark on a novel approach to power plant permitting—based on electric-capacity limits that exempt the plants from instream (but downriver) temperature limits, while removing all other water-quality-based limitations on the thermal discharges and resulting plumes—this new approach involves a host of important policy considerations that the Board should, in its discretion, review under § 124.19(a)(4)(B).

B. The Region Clearly Erred in Declining to Set More Stringent BAT Limits for Combustion Residual Leachate Discharges.

The Region also erred in declining to set more stringent case-by-case BAT limits on the Station's discharges of combustion residual leachate through Outfall 003A. In the RTC, the Region acknowledges that, in 2019, the Fifth Circuit Court of Appeals vacated nationwide ELGs for combustion residual leachate.[245] In the absence of applicable ELGs establishing BAT limits for this waste stream, EPA is required to establish BAT limits on a case-by-case basis using its best professional judgment ("BPJ").[246] Here, however, the Region established case-by-case BAT limits for combustion residual leachate that are identical to the inadequate 1982

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[244] Not only is the unqualified prohibition on violating WQS found in many other NPDES permits, but the narrative effluent limitations on the thermal plume also appear, nearly verbatim, in many EPA-issued power plant permits, including for the Schiller Station and Newington plant in NH and the Mirant Canal Station, Mystic Station, and Pepperrell Power Plant in MA. RTC at II-330 – II-332 & nn.65–67.

[245] RTC at V-30 (citing *Sw. Elec. Power Co.*, 920 F.3d at 1033).

[246] 40 C.F.R. § 125.3(a), (c)(2)–(3).

limits that the Fifth Circuit recently vacated.[247] The Region's failure to set more stringent case-by-case BAT limits on leachate is arbitrary, capricious, and contrary to law.

CWA § 301 requires that for toxic and other pollutants, there "shall be achieved . . . effluent limitations . . . which (i) shall require application of [BAT] for such category or class" and "shall require the elimination of discharges of all pollutants" if achievable.[248] The Supreme Court held long ago that BAT must represent "a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges."[249] Moreover, "BAT limitations must 'be based on the performance of the single best-performing plant in an industrial field.'"[250]

There are two primary ways in which EPA must incorporate the required BAT limits into a NPDES permit. If EPA has issued nationwide ELGs that establish BAT limits for an industrial discharger's waste streams, then EPA must

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[247] RTC at V-30.

[248] 33 U.S.C. § 1311(b)(2)(A); *see also* 40 C.F.R. § 125.3(a) ("[t]echnology-based treatment requirements under section 301(b) of the [CWA] represent the minimum level of control that must be imposed" in a NPDES permit).

[249] *EPA v. Nat'l Crushed Stone Ass'n*, 449 U.S. 64, 74 (1980).

[250] *Sw. Elec. Power Co.*, 920 F.3d at 1006 (quoting *Chem. Mfrs. Ass'n v. EPA*, 870 F.2d 177, 226 (5th Cir. 1989)). Congress intended that permitting authorities would "use the latest scientific research and technology in setting effluent limits, pushing industries toward the goal of zero discharge as quickly as possible." *Kennecott v. EPA*, 780 F.2d 445, 448 (4th Cir. 1985); *see also NRDC v. EPA*, 863 F.2d 1420, 1431 (9th Cir. 1988).

incorporate those BAT limits into any NPDES permits that it issues to those dischargers.[251] If EPA has not issued applicable ELGs that establish BAT, including (in pertinent part) "[w]here promulgated [ELGs] only apply to certain aspects of the discharger's operation," then EPA must set BAT limits in its NPDES permits on a case-by-case basis using BPJ.[252]

In 2015, EPA finalized a major and long-overdue set of revisions to the ELGs for steam electric power plants, which had not previously been updated since 1982.[253] Although the 2015 Rule established more stringent BAT effluent limitations for the largest coal ash wastewater streams from power plants, the Rule exempted combustion residual leachate from impoundments and landfills from more stringent requirements. Rather, for leachate, the 2015 Rule did not require any more stringent BAT limits, but instead only required compliance with EPA's existing, outdated 1982 BPT standards. The 1982 BPT standards for power plants

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[251] *See* 40 C.F.R. § 125.3(c)(1).

[252] *Id*. § 125.3(c)(2)–(3). EPA summarized this process in the 2017 Statement, noting that "in the absence of promulgated technology-based effluent limits, the permitting authorities make BPJ case-by-case determinations as to BAT . . . . See 40 C.F.R. § 125.3(c)." Att. 10 (AR-1534) at 54; *see also* Att. 21 (AR-1564; EPA Memorandum from James Hanlon, NPDES Permitting of Wastewater Discharges at Attachment A, June 7, 2010 (providing guidance regarding the existing statutory obligation to establish technology-based effluent limits for scrubber wastewater prior to the finalization of the 2015 ELGs for steam electric power plants)). Permitting authorities routinely set effluent limits using best professional judgment for discharges to which nationwide ELGs are inapplicable. *See* Permit Writers' Manual at 5-44 to 5-48.

[253] 80 Fed. Reg. at 67,838.

did not include any specific limits on toxic metals in power plant wastewater, but instead only limited total dissolved solids and oil and grease in those discharges.[254]

However, the 2015 ELG Rule's less-stringent BAT limits for combustion residual leachate are no longer in effect. In April 2019, the Fifth Circuit Court of Appeals agreed with Environmental Petitioners in that case (which included Sierra Club) that the regulatory provisions setting limits on combustion residual leachate are unlawful, and vacated and remanded those provisions to EPA.[255] As a result, there are no ELGs for steam electric power plants that establish BAT limits for combustion residual leachate, and EPA was therefore required to use its BPJ to set BAT limits for Merrimack's discharges of combustion residual leachate.[256]

EPA has not yet announced any specific plans to engage in rulemaking to respond to the Fifth Circuit's decision. Although EPA is currently completing a rulemaking to reconsider other provisions of the 2015 Steam Electric ELGs, it made clear in its proposed rule that this rulemaking will not address combustion residual leachate.[257] Accordingly, on the heels of the Fifth Circuit's decision, the steam-

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[254] *See* 40 C.F.R. § 423.13(g)(1)(ii), (k)(1)(ii). As the Fifth Circuit explained, "[w]hereas the BAT for the other streams adopts modern technologies, they [Petitioners] claim the agency arbitrarily set BAT for . . . leachate using the same archaic technology in place since 1982 . . . . It was as if Apple unveiled the new iMac, and it was a Commodore 64." *Sw. Elec. Power Co. v. EPA*, 920 F.3d 999, 1004 (5th Cir. 2019).

[255] *Sw. Elec. Power Co.*, 920 F.3d at 1033.

[256] *See* 40 C.F.R. § 125.3(c)(2)–(3).

[257] *See* EPA, Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, 84 Fed. Reg. 64,620, 64,625 (Nov. 22,

electric ELGs no longer establish BAT limits for combustion residual leachate, nor will they for the foreseeable future.

In finalizing the Permit, however, the Region declined to set more stringent case-by-case BAT limits on combustion residual leachate discharges, as required by 40 C.F.R. § 125.3.[258] The Region recognized in the RTC that "[u]ntil EPA takes action to address the [*Southwestern Electric Power Company*] Court's vacatur or propose new national BAT limit(s) for" combustion residual leachate, EPA "must determine what limit(s) apply and are appropriate to regulate this wastestream."[259] Nevertheless, despite recognizing its requirement to consider setting more stringent BAT limits, the Region found that such limits could be set at the same level as the outdated, 1982 BPT limits[260]—*i.e.*, the same BAT limits for combustion residual leachate that the Fifth Circuit vacated from the national ELGs in *Southwestern Electric Power Company*, finding them to be inadequately protective and unlawful.

The Region's determination to adopt the 1982 BPT limits as Merrimack's 2020 BAT limits for combustion residual leachate instead of setting more stringent BAT limits is arbitrary, capricious, and contrary to law. In *Southwestern Electric Power Company*, the Fifth Circuit found that EPA's description of the 1982 BPT

2019) (stating of *Southwestern Electric Power Company* that "EPA plans to address this vacatur in a subsequent action").

[258] RTC at V-30.

[259] *Id*.

[260] *See id*. (concluding that "BAT requirements" for leachate could be set at "no further control beyond BPT").

limits in the 2015 Rule as "out of date" was a "charitable understatement."[261] Specifically, the court found that the 1982 ELGs were from a "bygone era" in that they allowed coal-burning power plants to manage toxic wastewater in surface impoundments, "which are essentially pits where wastewater sits, solids (sometimes) settle out, and toxins leach into groundwater."[262] Relying on EPA's own findings from the 2015 Rule, the court found that the 1982 BPT limits were "largely ineffective" and "are relics of the past" that "do not adequately control the pollutants (toxic metals and other[s]) discharged by this industry, nor do they reflect relevant process and technology advances that have occurred in the last 30-plus years."[263]

The Region makes no attempt to reconcile its decision that BAT could require "no further control beyond BPT" for combustion residual leachate[264] with either the Fifth Circuit's emphatic decision that the BPT limits cannot represent BAT for combustion residual leachate or EPA's own record from the 2015 Rule that the BPT limits are inadequate. Rather, the Region appears to be solely relying on the fact

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[261] *Sw. Elec. Power Co.*, 920 F.3d at 1003 (citing 80 Fed. Reg. at 67,838).

[262] *Id.* (citing 80 Fed. Reg. at 67,840, 67,851).

[263] *Id.* at 1003-04, 1007, 1015, 1017-19, 1025-26 (citing 80 Fed. Reg. at 67,840); *see also* 80 Fed. Reg. at 67,851 ("[P]ollutants that are present mostly in soluble (dissolved) form, such as selenium, boron, and magnesium, are not effectively and reliably removed by gravity in surface impoundments."); 78 Fed. Reg. 34,432, 34,459 (June 7, 2013) ("For metals present in both soluble and particulate forms (such as mercury), surface impoundments will not effectively remove the dissolved fraction.").

[264] RTC at V-30.

that the Fifth Circuit did not vacate the 1982 BPT limits themselves but instead only vacated the 2015 Rule provisions that set those same limits as BAT limits for combustion residual leachate.[265]

The Region's rationale is unlawful. The Clean Water Act requires that BAT limits be "technology-forcing,"[266] and that they completely eliminate pollutant discharges where feasible.[267] The CWA's requirement that all industrial dischargers meet BAT-level controls for their discharges cannot adequately or lawfully be implemented through adoption of outdated BPT standards that EPA itself cannot claim to result in effective pollution control, as the Fifth Circuit recently held in *Southwestern Electric Power Company*.[268] The Region's attempt to

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[265] *See id.* (stating that EPA's decision not to set BAT limits on combustion residual leachate and other waste streams in 1982 "occupies the field").

[266] *See Nat. Res. Def. Council v. EPA*, 808 F.3d 556, 563-64 (2d Cir. 2015) ("Congress designed this standard to be technology-forcing, meaning it should force agencies and permit applicants to adopt technologies that achieve the greatest reductions in pollution."); *Nat. Res. Def. Council v. EPA*, 822 F.2d 104, 123 (D.C. Cir. 1987) (stating that "the most salient characteristic of this [CWA] statutory scheme, articulated time and again by its architects and embedded in the statutory language, is that it is technology-forcing"); *see also Sw. Elec. Power Co.*, 920 F.3d at 1005.

[267] *See* 33 U.S.C. § 1311(b)(2)(A) (BAT limits "shall require the elimination of discharges of all pollutants if . . . such elimination is technologically and economically achievable").

[268] *See Sw. Elec. Power Co.*, 920 F.3d at 1030 ("[A] decision to leave BPT limitations in place for leachate, when those limitations were based on admittedly ineffective technology, does not reflect 'a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges,' which was the intent of Congress in enacting BAT standards in the first place.") (quoting *Nat'l Crushed Stone Ass'n*, 449 U.S. at 74).

adopt these same limits as BAT limits for Merrimack that the Fifth Circuit just rejected as BAT limits for the national ELGs fails for the same reason: "EPA's decision to rest on its laurels (questionable as they are) respecting leachate thus frustrates the policy Congress sought to implement in the CWA . . . and cannot stand."[269] The outdated 1982 BPT limits do not meet the BAT requirements for combustion residual leachate, and therefore EPA is required to use its BPJ to set more stringent case-by-case BAT limits for The Station's combustion residual leachate discharges under 40 C.F.R. § 125.3(c).

The Board should remand the permit to the Region and require it to set new, more stringent BAT limits on the Station's combustion residual leachate discharges.

VIII.

CONCLUSION AND REQUEST FOR ORAL ARGUMENT

For the foregoing reasons, Petitioners respectfully request that that the Board review and remand the contested conditions, decisions, and determinations in the issuance of NPDES Permit No. NH0001465.

Given the 23-year delay updating the 1992 Permit, Petitioners request that the Board order the Region to issue a new draft permit within three months of the Board's Order and a final permit within six months of the Board's Order.

Petitioners also request oral argument before the Board on this Petition because they believe that oral argument will be of assistance to the Board.

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[269] *Id.* (internal citation and quotation marks omitted).

Dated: July 27, 2020

Respectfully Submitted,

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STATEMENT OF COMPLIANCE WITH WORD LIMITATION

In accordance with 40 C.F.R §§ 124.19(d)(1)(iv) & (d)(3), I hereby certify that this petition does not exceed 18,000 words, the word limit established in the Board's June 16, 2020 order. Not including the cover page, tables, signature block, statement of compliance with word limitation, and certificate of service, this petition contains 17,941 words (including footnotes), as counted by Microsoft Word. This petition is written in Century Schoolbook, 12-point font.

/s/ *Reed W. Super*
Reed W. Super

CERTIFICATE OF SERVICE

I, Reed W Super, hereby certify that on July 27, 2020, I caused to be served a true and correct copy of the foregoing Petition for Review to the following by email and through the EAB's e-filing system:

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