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

In re:	)	
	)	NPDES Appeal No. 23-___
Granite Shore Power Schiller LLC	)	
	)	
NPDES Permit No. NH0001473	)	
	)	

PETITION FOR REVIEW BY SIERRA CLUB AND CONSERVATION LAW FOUNDATION

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I.

INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), the Sierra Club and Conservation Law Foundation respectfully submit this Petition for Review of the modified National Pollutant Discharge Elimination System ("NPDES") Permit No. NH0001473 dated May 17, 2023 ("2023 Final Permit Modification") issued by the Environmental Protection Agency ("EPA") Region 1 ("Region") to Schiller Station ("Schiller" or the "Station").

As more fully presented below, the alternative compliance option for the entrainment reduction Best Technology Available ("BTA") introduced in the 2023 Final Permit Modification is based on findings of fact and conclusions of law that are clearly erroneous and arbitrary, impermissibly resulting in less stringent permit conditions. The 2023 Final Permit Modification allows cooling water intake structure ("CWIS") flow limits as an alternative compliance option for the entrainment BTA, which was previously determined in the 2018 Final Permit to be wedgewire screens. The Region justifies this modification by claiming that the CWIS flow limits would achieve a comparable level of entrainment reduction to the level achieved by wedgewire screens; however, in fact the CWIS flow limits in the 2023 Final Permit Modification would not result in any actual reduction in entrainment at Schiller, let alone reduction equivalent to that achieved by wedgewire screens, and may actually result in increases in entrainment. This clear

error undermines the 2018 BTA determination and any protective effect provided by the 2018 Final Permit.

For those reasons, Sierra Club and Conservation Law Foundation hereby petition the Environmental Appeals Board (the "Board" or "EAB") to review this clearly erroneous and arbitrary determination.

II.

THRESHOLD PROCEDURAL REQUIREMENTS

This petition is timely filed by the June 16, 2023 deadline pursuant to 40 C.F.R. § 124.19(a)(3), which requires that a petition for review be filed with the Clerk of the Environmental Appeals Board within 30 days after the Regional Administrator serves notice of the issuance of a NPDES final permit decision.

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) The Region's inclusion of a CWIS flow limit alternative compliance option for the previously-determined wedgewire screen BTA for CWIS requirements to minimize entrainment (Part I.A.11.a.1.i); and

(2) The Region's selection of a CWIS flow limit that will not reduce entrainment at Schiller (Part I.A.2).

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.a.1.i; and (ii) Part I.A.2.

B. Preservation of Issues

Pursuant to 40 C.F.R. §§ 124.19(a)(2) & 124.19(a)(4)(ii), Petitioners identify their comments submitted November 17, 2022 as written comments in which the issues in this petition were raised during the public comment periods, to the extent required by § 124.13.[1] Petitioners commented at length that: (i) the CWIS flow reductions do not reduce entrainment at Schiller,[2] and (ii) the CWIS flow reductions are less protective than the prior BTA requirement of wedgewire screens for entrainment.[3]

Petitioners raised all reasonably ascertainable issues and submitted all reasonably available arguments supporting their position in compliance with 40 C.F.R. § 124.13. Pursuant to 40 C.F.R. § 124.19(a)(4)(ii), further citations to the comment-and-response 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.

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[1] Att. 3 (Sierra Club & Conservation Law Foundation, Comments on EPA's Proposed Modification of the 2018 NPDES Permit for Schiller Station (Permit No. NH0001473), at 4-7 (Nov. 17, 2022)). The Attachment ("Att.") and Administrative Record ("AR-") numbers are provided in the first citation to each attachment. *See also* Table of Attachments, *supra*. While the comments are not currently available in the online administrative record, Danielle Gaito of EPA Region 1 indicated by email dated June 15, 2023 that Petitioners' written comments were a part of the record and would be uploaded.

[2] *Id.* at 4-7.

[3] *Id.*

III.

STATUTORY AND REGULATORY FRAMEWORK

A. Regulation of Cooling Water Intake Structures

Congress enacted the Clean Water Act "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[4] Section 316(b) of the CWA requires that the "location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact."[5] Section 316(b) requirements are implemented through a National Pollutant Discharge Elimination System permit for individual facilities.[6] Schiller must be brought into compliance with Section 316(b) "as soon as possible," and, in the interim, must be subject to "interim requirements and … dates for their achievement."[7]

In 2004, EPA published regulations designed to implement Section 316(b) at existing power plants like Schiller. Following legal challenges, however, the Second Circuit remanded numerous aspects of the rule to the EPA.[8] The U.S. Supreme

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[4] 33 U.S.C. § 1251(a).

[5] 33 U.S.C. § 1326(b).

[6] 40 C.F.R. § 125.89(b).

[7] 40 C.F.R. § 122.47(a); *see also* 33 U.S.C. § 1311(b).

[8] *See Riverkeeper Inc. v. U.S. Envtl. Prot. Agency ("Riverkeeper II")*, 475 F.3d 83 (2d Cir. 2007).

Court reviewed the Second Circuit's decision on the limited issue of whether Section 316(b) authorizes EPA to consider costs in relation to benefits.[9] Other aspects of the Second Circuit's decision were not addressed by the Supreme court's review. In response to the Second Circuit's remand of extensive portions of the rule, EPA withdrew the entire regulation for existing facilities so that it could revise the rule to be consistent with the Clean Water Act.[10]

EPA's subsequent CWA § 316(b) regulations became effective on October 14, 2014, setting national requirements under Section 316(b) for cooling water intake structures at existing facilities.[11] For entrainment control, these regulations are not a significant departure from the site-specific Best Professional Judgement process that controlled BTA determinations in prior decades. The regulations still require the permit writers to engage in case-by-case BTA selections, but the new rule specifies five factors that the permit writer must consider in establishing the site-specific entrainment standard:

> (i) Numbers and types of organisms entrained... (ii) Impact of changes in [air] emissions ... associated with entrainment technologies; (iii) Land availability inasmuch as it relates to the feasibility of entrainment technology; (iv) Remaining [facility] useful plant life; and (v) Quantified and qualitative

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[9] *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208 (2009).

[10] *See* EPA, *National Pollutant Discharge Elimination System—Suspension of Regulations Establishing Requirements for Cooling Water Intake Structures at Phase II Existing Facilities*, 72 Fed. Reg. 37,107 (July 9, 2007).

[11] *See* EPA, *National Pollutant Discharge Elimination System—Final Regulations To Establish Requirements for Cooling Water Intake Structures at Existing Facilities and Amend Requirements at Phase I Facilities*, 79 Fed. Reg. 48,300 (Aug. 15, 2014).

social benefits and costs of available entrainment technologies when such information on both benefits and costs is of sufficient rigor to make a decision.[12]

IV.

FACTUAL AND PROCEDURAL BACKGROUND

A. Schiller Station on the Piscataqua River

Schiller Station is located on the southwestern bank of the Piscataqua River, a 12-mile-long tidal estuary that marks the boundary between coastal New Hampshire and Maine. The river is formed at the confluence of the Cocheco River and the Salmon Falls River and runs southeastward until it empties into the Atlantic Ocean.[13] The Piscataqua is the gateway for all organisms migrating to and from the Great Bay and Little Bay estuaries.

Schiller Station is a power plant operated by Granite Shore Power ("GSP" or the "Permittee"), which primarily burns coal and has an electrical output of 163 megawatts (MW). The Station consists of two 48 MW coal-fired units, Units 4 and 6,

[12] 40 C.F.R. § 125.98(f)(2).

[13] Petrudev Report at 1-1. The Petrudev Report was prepared by Petrudev Inc., a consulting company that specializes in technical reviews of fisheries studies including impingement and entrainment of fish and shellfish from different industrial water users. Staff are also very familiar with thermal effects on fish and other invertebrates and their assessments. A copy of the Petrudev Report was attached to Sierra Club's 2016 Comments as Exhibit 3. Att. 4 (AR-312; Comments of Sierra Club Regarding Renewal of Schiller Station NPDES Permit No. NH0001473 (Jan. 27, 2016)).

which use oil as a back-up fuel; one 48 MW wood-fired unit, Unit 5; and one 19 MW combustion turbine.[14] Units 4, 5, and 6 began commercial operation in the 1950s.

1. Schiller Station and its Current Cooling Water Intake System

Schiller Station uses a once-through cooling system that withdraws large volumes of water from the Piscataqua River, uses that cooling water to extract waste heat, and discharges the heated water back to the river.[15] Steam-electric power plants, like Schiller, generate electricity by boiling water to produce steam that spins a turbine.[16] 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.[17] The environmental impacts of once-through cooling systems in particular can be "staggering."[18] In contrast, closed-cycle and dry cooling systems recirculate cooling water and dissipate waste heat into the air, instead of discharging it to the source

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[14] Att. 5 (AR-508; EPA Region 1, Statement of Basis For: National Pollutant Discharge Elimination System Permit Draft Modification to Discharge to Waters of the United States, NPDES Permit No. NH0001473, at 2 (Oct. 2022) (hereinafter "2022 Draft Statement of Basis")).

[15] *Id.*

[16] *Id.*

[17] Att. 6 (AR-259; EPA Region 1, Schiller Station Draft Authorization Discharge Under the National Pollutant Discharge Elimination System NPDES Permit NH0001473 – Fact Sheet at 141-42 (Sept. 29, 2015) (hereinafter the "2015 Schiller Fact Sheet")).

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

water body, reducing cooling water withdrawals and thermal discharges by more than 95%.[19]

The Station's once-through cooling system draws through two cooling water intakes which, at full capacity, withdraw 125.8 million gallons of water per day (MGD) from the Piscataqua River.[20] The estimated design heat rejection rate of Schiller's once-through cooling system is 759 MMBtu/hr.[21] When Schiller operates, all of this heat is discharged in the cooling water back into the Piscataqua River.

The cooling water intake system (CWIS) flows are directly related to plant capacity, meaning that when the plant operates at less than full capacity, the CWIS flows are less than 125.8 MGD. For example, if Schiller Station operates only one unit (or at 33% of total capacity), the CWIS flow is 41.8 MGD (or 33% of design flow).[22]

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[19] 2015 Schiller Fact Sheet at 141.

[20] 2022 Draft Statement of Basis at 7.

[21] Powers Report at 2. The Powers Engineering report was prepared by Willliam Powers. Mr. Powers is a mechanical engineer and consultant on environmental and energy matters and the owner and operator of Powers Engineering. At Powers Engineering he has carried out cooling system retrofit evaluations for coal plants, nuclear plants, and natural gas combined cycle plants and prepared sections on combined cycle power plant air emission controls and air cooling systems for Electric Power Research Institute guidance documents. A copy of the Powers Engineering report was attached to Sierra Club's 2016 Comments as Exhibit 1. Att. 4 (AR-312; Comments of Sierra Club Regarding Renewal of Schiller Station NPDES Permit No. NH0001473 (Jan. 27, 2016)).

[22] 2022 Draft Statement of Basis at 7.

While Schiller Station operated near total capacity in the early 2000s, the plant's operation has steadily declined, with almost no operation in the last 3 years. In 2011 the plant transitioned from being a baseload plant, operating almost all the time, to a peaker plant that generally runs in winter and rarely in summer to meet high electricity demand.[23] Schiller Station's average CWIS flows (and related capacity operations) dropped accordingly, with an average from 2012 through 2016 of 46% of design flow.[24] This downward trend has continued: the yearly average operation was 32.1% of total capacity in 2016, 30% in 2017, 30.4% in 2018, 23.9% in 2019, 4.5% in 2020, 0.6% in 2021, and 0.8% in 2022.[25] Seasonal and daily plant operations data likewise confirm that Schiller Station has rarely operated anywhere near total capacity since 2016.

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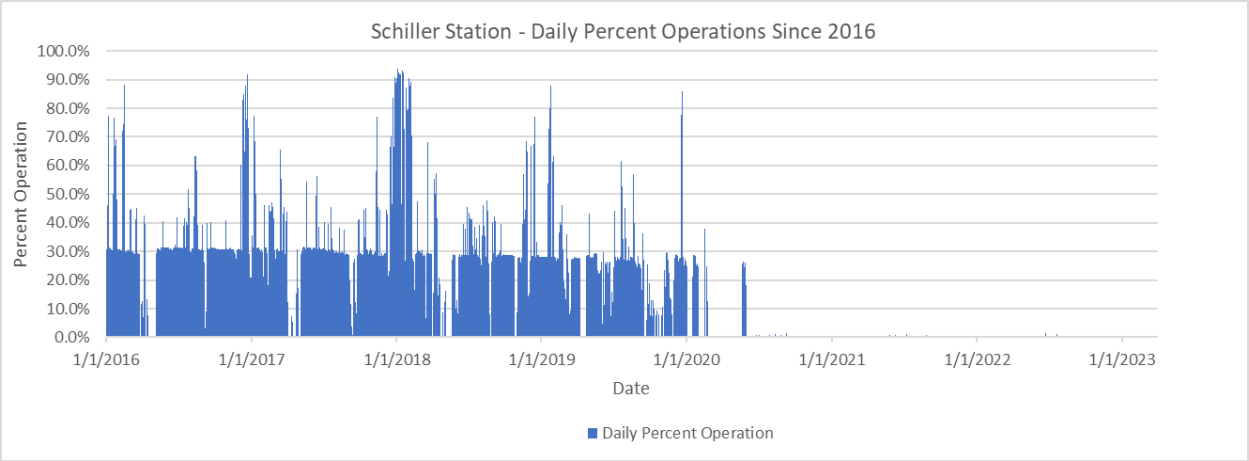
[23] 2015 Schiller Fact Sheet at 104; Att. 7 (AR-510; EPA Region 1, Final Schiller Station National Pollutant Discharge Elimination System Permit No. NH0001473 and Response to Comments, at 293 (Apr. 2018) (hereinafter the "2018 Response to Comments)).

[24] 2018 Response to Comments at 293.

[25] *See* Attachment 1, Cells R19-R25 (calculating yearly average percentage operation of all three units combined at Schiller Station based on Gross Load). Data taken from U.S. EPA, Clean Air Markets Program Data, available at https://campd.epa.gov/data/custom-data-download; *see also* Sierra Club & Conservation Law Foundation, Comments on EPA's Proposed Modification of the 2018 NPDES Permit for Schiller Station (Permit No. NH0001473), at 5-6 (Nov. 17, 2022). The Region likewise acknowledges this. *See, e.g.*, 2022 Draft Statement of Basis at 5.

Figure 1 - Schiller Station Daily Percent Operations Since 2016[26]



2. Environmental Impacts on the Piscataqua River

The Piscataqua River is important for diadromous fish species. As an estuarine environment mixing freshwater and saltwater and receiving flow from—and contributing flow to—the Great Bay and Little Bay estuaries, the Piscataqua River is highly productive, ecologically important, and sensitive. Historically, the Piscataqua River has provided dense eelgrass habitat and provided breeding grounds and nurseries, nutrients, and food for a diverse range of aquatic species including at least 50 fish species and at least nine "macro crustaceans:" American lobster, horseshoe crabs, and seven species of true crabs.[27]

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[26] *See* Attachment 1 (chart labeled Schiller Station - Daily Percent Operations Since 2016). Data taken from U.S. EPA, Clean Air Markets Program Data, available at https://campd.epa.gov/data/custom-data-download.

[27] Petrudev Report at 2-2 - 2-3.

Of the species of fish and crustaceans known to inhabit the area around Schiller, the eggs of at least 21 different species of fish and the larvae of 27 species have been recorded killed at Schiller, along with the larvae of eight of the nine macro-crustacean species found in the area and juveniles and adults from five of the nine macro-crustacean species.[28] In other words, Schiller kills various life stages of the majority of species for which biologists have conducted sampling. The Region estimated in 2018 that Schiller Station's CWIS impinges "over 5,500 fish" and "entrain[s] more than 145 million fish eggs and larvae each year."[29] According to the Region, "the losses from impingement mortality and entrainment at Schiller Station constitute an adverse environmental impact on the Piscataqua River and additional controls are necessary and warranted to minimize that impact consistent with" Clean Water Act requirements.[30]

B. Regulation of Cooling Water Intakes at Schiller Station

The Region permitted Schiller Station's once-through cooling system in 1990.[31] While that permit expired in 1995, the Region did not issue a new final permit until 2018, 23 years later, after requesting notice and comment on a draft

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[28] *Id.*

[29] 2018 Response to Comments at 46.

[30] 2022 Draft Statement of Basis at 4.

[31] *See* Att. 8 (AR-002, Schiller Authorization to Discharge Under the National Pollutant Discharge Elimination System NH0001473 (Sept. 11, 1990) (hereinafter the "1990 Permit")).

permit in 2015.[32] The 2018 Final Permit obligated Schiller Station to install wedgewire screens to address entrainment and impingement from its cooling water system by, at latest, 2023.[33] GSP failed to meet that requirement and instead requested a permit modification from the Region in 2021.[34] Rather than install wedgewire screens, GSP sought a limit on intake flows at the plant – an illusory restriction given that the requested flow restriction is above any historical intake at Schiller Station since 2016. The Region granted this request in its 2023 Final Permit Modification, after requesting notice and comment on a draft permit in November 2022.[35]

1. The 2015 Draft Permit and Determinations

In September of 2015, the Region noticed for public comment a draft NPDES permit for Schiller Station.[36] The Region found that the CWIS water withdrawals

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[32] 2015 Schiller Fact Sheet at 6.

[33] *See infra* Section IV.B.3. The deadline for compliance was "as soon as practicable" based on a series of design, testing, and permitting milestones, resulting in compliance by, at latest, 2023; Att. 7 (AR-510; EPA Region 1, Final Schiller Station National Pollutant Discharge Elimination System (NPDES), Permit No. NH0001473 and Response to Comments, at 12-14 (Apr. 6, 2018) (hereinafter the "2018 Final Permit")).

[34] *See infra* Section IV.B.4.

[35] *See infra* Section IV.B.5.

[36] Att. 9 (AR-307; EPA Region 1, Schiller Station Draft Authorization to Discharge Under the National Pollutant Discharge Elimination System NPDES Permit NJ0001473 (Oct. 30, 2015) (hereinafter the "2015 Draft Permit")).

had an adverse environmental impact on the "high value habitat" of the Piscataqua River, entraining and impinging "large numbers of fish and macrocrustacean eggs, larvae, juveniles and adults."[37] Schiller Station's existing once-through cooling system did "not … reflect the BTA for minimizing adverse environmental effects, as required by CWA § 316(b)" because of these entrainment and impingement impacts.[38] According to the Region, the impacts of the existing once-through cooling system were "far more adverse than they would be with alternative, update[d] technology."[39] The Region proposed installation of cylindrical wedgewire screens as BTA to address these adverse environmental impacts.[40] For impingement reduction, the draft permit called for a velocity below 0.5 fps and a screen-slot size below 0.8mm, to achieve between 80% and 95% impingement reduction.[41] For entrainment, the draft permit required pilot testing to determine the optimal slot size (between 0.6mm and 0.8 mm), reducing entrainment mortality between 37% and 49%.[42]

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[37] 2015 Schiller Fact Sheet at 89, 97.

[38] *Id.* at 105.

[39] *Id.*

[40] 2015 Draft Permit at 15.

[41] *Id.* at 11; *see also* 2015 Schiller Fact Sheet at 113.

[42] 2015 Schiller Fact Sheet at 110, 117. The Region made this BTA determination despite recognizing that closed-cycle cooling is the most effective technology for

In the 2015 Draft Permit, the Region considered and rejected "capacity options," that would address impingement and entrainment by reducing CWIS flows, as BTA for Schiller Station.[43] The Region found that limiting CWIS flows alone would be inadequate because entrainment and impingement occurred year-round, and CWIS flow limits would therefore only be effective coupled with other technologies.[44] The Region rejected CWIS flow limits for the existing once-through cooling system as BTA even acknowledging that Schiller Station was not operating at 100% of its total capacity at the time in 2015 and likely would not in the future.[45] Thus, even with low capacity factors at Schiller Station, the Region found in 2015 that CWIS flow limits did not satisfy CWA § 316(b)'s BTA requirement for entrainment and impingement, instead proposing installation of wedgewire screens.[46]

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minimizing impingement and entrainment mortality, and finding that it was technically and financially feasible for Schiller Station. *Id.* at 157.

[43] *Id.* at 132-34.

[44] *Id.* at 133-35. In particular, the Region considered outages during peak impingement and entrainment months.

[45] *Id.* at 149 ("[R]ecent operating experience shows that Units 4 and 6 have not been operating much outside the peak winter and summer seasons and that this status is expected to continue.).

[46] 2015 Draft Permit at 15.

2. GSP And The 2018 Final Permit

Shortly before EPA issued the final 2018 Permit, GSP purchased Schiller from PSNH. The then-existing 1990 Permit was transferred to GSP, and the final 2018 Permit was likewise issued to it.[47] The April 2018 Final Permit for Schiller Station finalized the proposed BTA determinations of wedgewire screens for entrainment and impingement under section 316(b) of the Clean Water Act and its implementing regulations.[48]

Specifically, the 2018 Final Permit set a requirement that GSP "install and operate a fine mesh wedgewire screen intake system for the [cooling water intake systems] of Units 4, 5, and 6" with a "slot or mesh size no greater than 0.8 mm" to satisfy entrainment requirements, and that, in addition to the screens, "[t]o minimize impingement mortality, the permittee shall maintain a through-screen velocity at the wedgewire screens no greater than 0.5 fps."[49] The Region recognized that Schiller Station was not operating at design flow, and that the wedgewire screens BTA determination would "provide continuous protection from entrainment

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[47] As a result of a divestiture of PSNH's generating assets, the Permittee bought the Station on January 10, 2018, and the 1990 Permit was transferred to the Permittee shortly thereafter. Att. 10 (AR-432; Letter from David M. Webster, Water Permits Branch, EPA Region 1 regarding Transfer of NPDES Permit for Merrimack Station (Permit No. NH 0001465), Newington Station (Permit No. NH 0001601), and Schiller Station (Permit No. 0001473) (Jan. 18, 2018)).

[48] 2018 Final Permit at 11-12.

[49] *Id*.

and impingement whether the Units operate at design flow or not."[50] Although the Region assessed entrainment reductions achieved with the required wedgewire screens "based on operating at the design flow,"[51] the Region was well aware of then-current and likely future low levels of operation at Schiller Station: "the likely continued limited capacity at these units is one of many qualitative factors that EPA considered in evaluating the relative costs and benefits of wedgewire screens versus closed-cycle cooling."[52]

The April 2018 NPDES permit also set forth a compliance schedule for installation of these BTA screens that "shall be completed as soon as practicable but no later than the schedule of milestones," [53] including:

- Pilot design testing design and installation of all pilot testing equipment within 6 months of the effective date of the permit (i.e., by December 1, 2018)
- Completion of pilot testing of wedgewire screens no later than 18 months after the effective date of the permit (i.e., by December 1, 2019)
- Submission to the Region of a demonstration report within 21 months of the effective date of the permit (i.e., by March 1, 2020), including
    - Proposed screen slot size,

[50] 2018 Response to Comments at 294-95.

[51] *Id.* at 295.

[52] *Id.*

[53] 2018 Final Permit at 12.

- Proposed material choice for the equipment, and
- Proposed optimal screen orientation

- Completion of data collection, including topographic and bathymetric surveys, no later than 22 months after the effective date of the permit (i.e., by April 1, 2020)
- Submission of a final design for the wedgewire screens within 26 months of the effective date of the permit (i.e., by August 1, 2020).[54]

Within 8 months after submission of the final design, Schiller was to complete submission of all necessary permit applications, complete the permitting process within another 12 months and/or report to the Region on the progress of that permitting process, and finally complete, within 20 months of obtaining permits and approvals, complete installation, testing, startup, and commissioning of the wedgewire screens.[55] Accordingly, the 2018 permit contemplated at the most a timetable of somewhere between 54 and 66 months from the effective date of the permit for screens to be in place and operational, or in other words, completion by late 2022 or 2023.

a. GSP's Extension Request

After the final permit was issued, GSP sought, and received, from the Region an extension of this timeline. In March 2020, the Region extended the deadline for

[54] *Id.* at 12-13.

[55] *Id.* at 14.

the demonstration report another five months from March 1, 2020 to July 30, 2020, the data collection deadline another five months to August 29, 2020, and the deadline for final design submission another five months to December 30, 2020.[56] Notwithstanding the permit requirement and the extra time the Region afforded to GSP to comply, it does not appear that GSP ever submitted a final wedgewire screen design to the Region.

3. GSP 2021 Request for Modification

On March 31, 2021, after missing the extended deadlines for compliance with the 2018 Final Permit, GSP requested a permit modification and sought relief from the BTA wedgewire screen requirement.[57] GSP instead proposed limits on CWIS flows during certain months that would offer nominal "reductions" in system flow levels to address impingement and entrainment. However, these proposed limits were significantly in excess of Schiller Station's operations at the time.[58] GSP requested a 66.8% CWIS flow limit from April through October and 0% CWIS flow limit November through March.[59] Yet in 2021, at the time of the request, Schiller

[56] *See* Att. 11 (EPA Region 1, Schiller Station Draft Authorization to Discharge Under the National Pollutant Discharge Elimination System at 2 n.1 (Oct. 4, 2022) (hereinafter the "2022 Draft Permit Modification")) (citing Att. 12 (Letter from K. Moraff to E. Tillotson (March 25, 2020))).

[57] *See* Att. 13 (AR-491; Letter from E. Tillotson to D. Houlihan (March 31, 2021)).

[58] *Id.* at 3-4 (requesting relief from screen requirements and instead proposing monthly CWIS flow reductions April-October), 3 (noting the Schiller units were currently "in a long-term outage status").

[59] *Id.* at 4; 2022 Draft Statement of Basis at 5-6.

Station was operating at 0% of total capacity, and had *never* exceeded 66% of total capacity assessed on a rolling-30 day average between April and October from 2016 through 2020,[60] meaning that the proposed limits would have no effect on plant operations.

4. The 2022 Draft Permit Modification

On October 4, 2022, the Region issued a Draft Permit Modification for public comment in response to GSP's March 2021 request for modification. In the 2022 Draft Permit Modification, the Region made clear that it was not revisiting its wedgewire screen BTA determination from 2018.[61] Instead, it proposed to grant GSP's request by providing an alternative compliance mechanism of nominal limits on CWIS flows. Specifically, the draft modification proposed limiting CWIS flows to a maximum daily and monthly average of 41.8 MGD, or 33% of design flow, from April through October, and 125.8 MGD, or 100% of design flow, from November through January. From February through March, EPA proposed a maximum daily

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[60] Att. 1, Column H (indicating days when the 30-day rolling average exceeded 66% of total capacity). *See also* 2022 Draft Statement of Basis at 5; Sierra Club & Conservation Law Foundation, Comments on EPA's Proposed Modification of the 2018 NPDES Permit for Schiller Station (Permit No. NJ0001473) at 5 (Nov. 17, 2022).

[61] 2022 Draft Statement of Basis at 4 ("EPA is not revisiting the BTA determination from the Draft or Final Permits … EPA considers whether GSP's proposed alternative CWIS requirements for entrainment are as effective or more effective than the site-specific requirements in the Final Permit.").

average CWIS flow of 125.8 MGD (100% of design flow) and monthly average of 83.6 MGD, or 66% of design flow.[62]

5. The 2023 Final Permit Modification

The 2023 Final Permit Modification finalized the CWIS flow limit alternative to installation of wedgewire screens for impingement and entrainment.[63] During the period of April through October, the Station was directed to limit its maximum daily CWIS flow to 125.8 MGD (100% of design flow) and average monthly CWIS flow to 41.8 MGD, or 33% of design flow.[64] During the period of November through March, the 2023 Permit Modification set a maximum daily CWIS flow limit of 125.8 MGD (100% of design flow) and an average monthly CWIS flow limit of 83.6 MGD, or 66% of design flow.[65] The 12-month average total CWIS flow is limited to 30.19 MGD (24% of design flow).[66]

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[62] 2022 Draft Permit Modification at 3; 2022 Draft Statement of Basis at 8.

[63] Att. 14 (EPA Region 1, Schiller Station Authorization to Discharge Under the National Pollutant Discharge Elimination System (May 17, 2023) (hereinafter the "2023 Final Permit Modification")).

[64] *Id.* at 4; *see also* Att. 15 (Schiller Station Response to Comments NPDES Permit Modification NH0001473 at 3 (May 17, 2023) (hereinafter the "2023 Response to Comments")).

[65] 2023 Final Permit Modification at 4; 2023 Response to Comments at 3.

[66] 2023 Final Permit Modification at 4; 2023 Response to Comments at 3.

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 either "a finding of fact or conclusion of law that is clearly erroneous," or "an exercise of discretion or an important policy consideration that the Environmental Appeals Board should, in its discretion, review."[67]

When evaluating a challenged permit decision for clear error, the Board examines the administrative record to determine whether the permit issuer exercised "considered judgment."[68] The permit issuer "must articulate with reasonable clarity the reasons for its conclusions and the significance of the crucial facts" it relied on when reaching its conclusions.[69] 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."[70]

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[67] 40 C.F.R. § 124.19(a)(4)(A), (B).

[68] *In re Steel Dynamics, Inc.*, 9 E.A.D. 165, 191, 224-25 (EAB 2000); *In re Ash Grove Cement Co.*, 7 E.A.D. 387, 417-18 (EAB 1997).

[69] *In re Ash Grove*, 7 E.A.D. at 417 (citing *In re Carolina Power & Light Co.,* 1 E.A.D. 448, 451 (1978)).

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

In reviewing the exercise of discretion by the Region, the Board applies an abuse of discretion standard.[71] "[A]cts of discretion must be adequately explained and justified" in the record.[72] "The Board has, in the past, remanded permits because they have not provided such an adequate rationale."[73] Further, 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."[74]

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."[75]

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

[72] *In re Ash Grove*, 7 E.A.D. at 397 (citing *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. . .")).

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

[74] *In re Chukchansi Gold Resort & Casino Waste Water Treatment Plant*, 14 E.A.D. 260, 280 (EAB 2009).

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

VI.

SUMMARY OF ARGUMENT

The Board should review and remand the CWIS requirements to minimize adverse impacts from entrainment in Part I.A.11.a.1.i and Part I.A.2. of the 2023 Permit Modification to correct the Region's critical substantive error.

The Region committed clear error in the 2023 Permit Modification by allowing CWIS flow limits as an alternative compliance option for the established BTA of wedgewire screens, as the CWIS flow limits require no actual reductions in entrainment of aquatic life at Schiller Station. Indeed, neither the 33% monthly CWIS flow limit from April-October, nor the 66% monthly from November through March provides a meaningful reduction in entrainment at Schiller.

Further, the Region erred in determining that the CWIS flow limits are comparable to the established BTA wedgewire screens for minimizing entrainment at Schiller—the CWIS flow limits are significantly less protective than wedgewire screens, as screens provide reductions in entrainment at any level of operations. Thus, the 2023 Permit Modification impermissibly adopts a less stringent alternative compliance option for entrainment reduction BTA.

VII.

ARGUMENT

A. The Region committed clear error in the 2023 Permit Modification by allowing CWIS flow limits as an alternative compliance option for the established BTA of wedgewire screens.

The Region's inclusion of CWIS flow limits in the 2023 Permit Modification as an alternative entrainment compliance option to the 2018 Final Permit BTA determination of wedgewire screens is arbitrary and clearly erroneous because the CWIS flow limits will not provide reductions in entrainment at Schiller Station—and may actually allow increases in operations and associated entrainment—and are not as stringent as the wedgewire screens required by the 2018 Permit. The Region attempts to justify the alternative option of CWIS flow limits by claiming that the limits would result in hypothetical flow reductions compared to theoretical 100% capacity factor operations and thus would reduce abstract aquatic life entrainment at greater rates than would the wedgewire screens that the Region previously determined to be BTA.[76] However, the 2018 Permit did not define BTA as a requirement to reduce entrainment to a specific level at a hypothetical 100% capacity factor; rather, the permit required Schiller to install wedgewire screens. The Region now engages in a theoretical exercise to determine the level of entrainment reduction that would have been achieved had wedgewire screens been

[76] 2022 Draft Statement of Basis at 7.

installed and had the plant operated at 100% capacity factor year-round.[77] This exercise results in the Region drawing a false equivalency whereby the CWIS flow limits are characterized as equally protective or even more protective than wedgewire screens,[78] when in reality the CWIS flow limits provide no real reduction in entrainment at Schiller Station, while wedgewire screens would have achieved reductions at any capacity factor. The Region emphasizes that it has not revisited or changed the BTA determination in the 2023 Permit Modification;[79] however, the result of this theoretical exercise undermines the 2018 BTA determination and any protective effect provided by the 2018 Permit.

1. The CWIS flow limits require no actual reductions in entrainment of aquatic life at Schiller Station.

The CWIS flow limits included in the 2023 Permit Modification as an alternative compliance option to wedgewire screens would not require reductions in entrainment of aquatic life at Schiller. The 2023 Permit Modification allows Schiller to operate at 33% of design flow from April through October and at 66% of design

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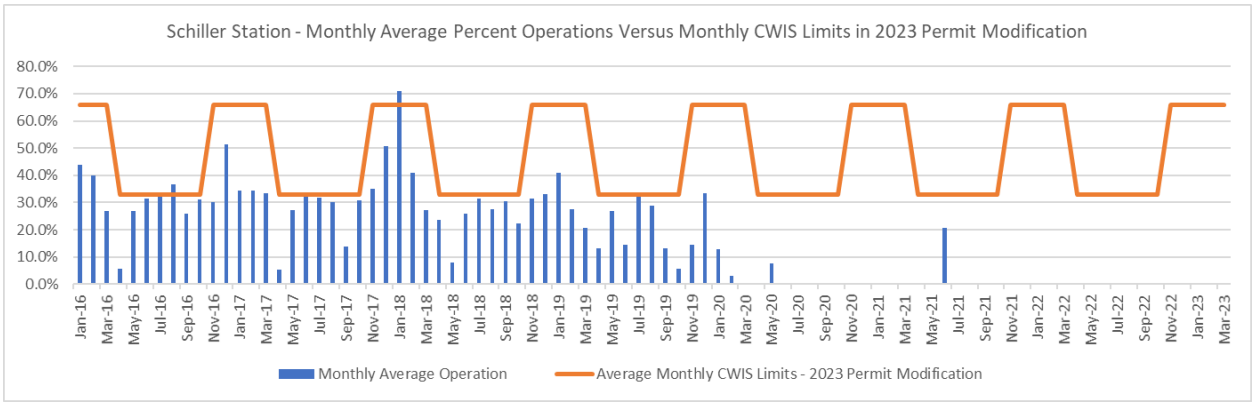
[77] As described in the 2023 Response to Comments: "EPA is comparing the reduction that it previously determined represented the maximum entrainment reduction warranted in 2018… to the reduction that can be achieved with an alternative technology (i.e., intake flow limits)." 2023 Response to Comments at 32.

[78] *See e.g.* 2023 Response to Comments at 34 ("Compared to the 2018 Permit limits, the intake flow limits in the Permit Modification provide comparable entrainment protection."); 2022 Draft Statement of Basis at 9 ("EPA has determined that, on balance, the proposed flow reductions at Schiller Station are comparable to, or more effective than, wedgewire screens for minimizing entrainment of eggs and larvae.").

[79] 2023 Response to Comments at 31 and 32 (citing 2022 Draft Statement of Basis at 4).

flow from November through March. However, Schiller Station has not operated at anywhere near these levels in recent years—the plant has not operated *at all* since the summer of 2020, and as discussed below, in the preceding years Schiller Station rarely approached the operating limits imposed by the Permit Modification. Consequently, the CWIS flow limits presented in the Permit Modification as an alternative to the wedgewire screens required by the 2018 Permit provide no meaningful reduction in entrainment at Schiller and in practice will allow an increase in entrainment at Schiller relative to the requirements of the 2018 Permit.

Figure 2. Monthly Average Percent Operations vs. Average Monthly CWIS Flow Limits



a. The 33% monthly CWIS flow limit from April-October will not provide a meaningful reduction in entrainment at Schiller.

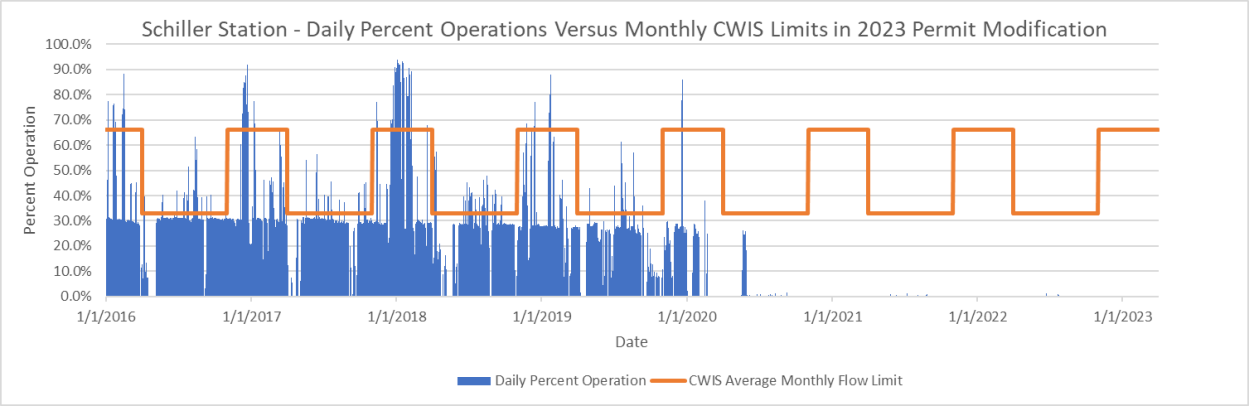
The April-October monthly CWIS flow limit of 33% is unlikely to provide a meaningful reduction in entrainment at Schiller. Very rarely during these months has Schiller historically operated at levels above 33% of capacity (and only rarely did days involve operations significantly above 33% capacity), meaning that

Schiller's daily CWIS flows almost never exceed the limit the Region includes in the Permit Modification for April-October operations. As illustrated above in Figure 2, operations data from January 2016 through March 2023 show that Schiller, in the last seven years of operations, only exceeded an average monthly limit of 33% operations during the April to October period twice, in July and August 2016.

As further illustrated in Figure 3 below, daily operations above 33% capacity from April to October for the seven years between 2016-2023 only amount to roughly 6.68% of overall days during the April-October period from January 2016 to March 2023, meaning that the 2023 Permit Modification CWIS flow limit for April to October, which is designed to reduce CWIS flows by 67%, would, at the very best, only reduce CWIS actual daily flows by 6.68% spread out over *seven years*.[80] Moreover, during the period examined there were thousands of days involving much less than 33% capacity, meaning that rather than mandate reductions, the Region's proposed CWIS flow limits would allow *increases* in flow levels—and concomitant entrainment—on those days.

[80] Per Attachment 1, daily operations from April to October for the seven years between 2016-2023 exceeded 33% operations on 100 days out of a total of 1498 days in that period.

Figure 3. Daily Percent Operations Vs. Average Monthly CWIS Flow Limits in 2023 Permit Modification



b. The 66% monthly CWIS flow limit from November to March similarly fails to require a meaningful reduction in entrainment at Schiller.

The November-March monthly CWIS flow limit of 66% is similarly unlikely to amount to any actual change in operations at Schiller Station. As illustrated in Figure 2 above, operations data from January 2016 through March 2023 shows that Schiller only once, in the last seven years of operations, exceeded an average monthly limit of 66% of operations during the November to March period, in January 2018.[81] Since the CWIS flows during these periods only once exceeded the flow limits the Region implements in the Permit Modification, the 2023 Permit Modification fails to implement any meaningful reduction in entrainment at Schiller.

[81] *See* Attachment 1 (comparing Column M monthly average operation to Column N Average Monthly CWIS Limits - 2023 Permit Modification). Data taken from U.S. EPA, Clean Air Markets Program Data, available at https://campd.epa.gov/data/custom-data-download.

As further illustrated in Figure 3 above, daily operations above 66% capacity from November to April for the seven years between 2016-2023 only amount to roughly 6.96% of those days, meaning that the 2023 Permit Modification CWIS flow limit for November to April, which is designed to reduce CWIS flows by 34%, would, at the very best, only reduce CWIS actual daily flows by 6.96% spread out over *seven years*.[82] Moreover, during the period examined there were hundreds of days involving much less than 66% capacity, meaning that rather than mandate reductions, the Region's proposed CWIS flow limits would allow *increases* in flow levels—and concomitant entrainment—on those days.

c. Consideration of the hypothetical costs of the CWIS flow limits illustrates that the CWIS flow limits do not impose any limitation on operations at Schiller.

While the Region did not examine costs in the 2023 Permit Modification since it was not revisiting the BTA determination, had the Region done so it would have exposed the illusory nature of the constraints imposed by the BTA alternative compliance option in the 2023 Permit Modification: if the CWIS flow limits imposed meaningful operations restrictions on Schiller then the cost of those restrictions would be enormous. As described above, in developing the 2023 Permit Modification, the Region used theoretical CWIS flows characteristic of operations at 100% capacity factor for Schiller to determine that "limiting" those theoretical flows

[82] Per Attachment 1, daily operations from April to October for the seven years between 2016-2023 exceeded 66% operations on 80 days out of a total of 1149 days in that period.

by 66% from April to October and by 33% from November to March would result in a reduction in entrainment of aquatic life. This approximately 4/9 reduction in annual operations would (if we are to maintain the fiction that Schiller ever has or ever would operate continuously at full capacity) cost tens of millions of dollars per year in foregone revenue. As the average real-time wholesale power price in ISO-NE in 2022 was $84.92 per megawatt-hour,[83] Schiller—at the Region's imagined 100% capacity factor—would garner some $111.5 million in revenue per year;[84] reducing that revenue by 4/9 would therefore impose a cost of nearly $50 million per year. Such an annual cost would far exceed the comparatively trivial capital and operations cost of wedgewire screens.[85] To the extent that the plant's foregone *costs* are considered fictitious (since Schiller's operations have been well below a theoretical 100% capacity factor and the CWIS flow limits established in the 2023

[83] ISO New England, About Us, Key Grid and Market Stats, available at https://www.iso-ne.com/about/key-stats.

[84] Calculated by multiplying 50 MW x 3 units x 24 hours/day x 365 days/year x $84.92 per megawatt-hour.

[85] During the permitting process that resulted in the 2018 Permit, the Region did not make public the actual cost figures that it relied on for its analysis, claiming that they were confidential business information; however, Sierra Club analysis, submitted in our comments at the time, assessed that screens would cost $700,000 to $850,000. A copy of the Synapse Energy Economics Report was attached to Sierra Club's 2016 Comments as Exhibit 2. Att. 4 (AR-312; Comments of Sierra Club Regarding Renewal of Schiller Station NPDES Permit No. NH0001473 (Jan. 27, 2016)). For its part, the Region indicated that wedgewire screens at Schiller could be installed for "a low seven-figure cost." 2015 Fact Sheet at 158.

Permit Modification) the Region should likewise concede that any *benefits* of the CWIS flow limits in the 2023 Permit Modification are similarly illusory.[86]

2. The Region erred in determining that the CWIS flow limits are comparable to wedgewire screens for minimizing entrainment at Schiller.

a. The CWIS flow limits are significantly less protective than wedgewire screens.

The Region makes a fundamental error in its assessment that the CWIS flow limits in the 2023 Permit Modification are an equivalent to wedgewire screens: while CWIS flow limits will only reduce entrainment if they actually reduce real-world CWIS flows, wedgewire screens will reduce entrainment under *all* CWIS flow scenarios. As the Region itself noted, wedgewire screens would "provide continuous protection from entrainment and impingement whether the Units operate at design flow or not."[87] Nevertheless, the Region claims that the proposed flow reductions at Schiller Station are comparable to, or more effective than, wedgewire screens for minimizing entrainment at Schiller.[88] Indeed, the Region argues that the 33%

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[86] It is also worth considering that GSP would be unlikely to have "proposed an alternative to minimize entrainment in which the Permittee would limit operation of Schiller Station to a single unit from April through October (a 66.8% reduction in flow during this period)" (2022 Draft Statement of Basis at 5) in order to avoid the "low seven-figure cost" (2015 Fact Sheet at 158) of screens if it really meant giving up on many millions of dollars worth of revenue through foregone operations.

[87] 2018 Response to Comments at 294-95.

[88] 2022 Draft Statement of Basis at 9 ("EPA has determined that, on balance, the proposed flow reductions at Schiller Station are comparable to, or more effective than, wedgewire screens for minimizing entrainment of eggs and larvae." *See also*

CWIS flow limits will result in a "substantial increase" in reduction in entrainment over that achieved by wedgewire screens.[89]

The Region has erroneously compared the level of entrainment yielded by wedgewire screens at 100% capacity factor—a level at which Schiller has not run in years—to operations "reduced" to a 33% capacity factor, leading to the illogical conclusion that the 33% April-October CWIS flow limits are more protective than wedgewire screens. A fair comparison for the purposes of determining an equivalent BTA would instead compare the impact of wedgewire screens versus CWIS flow limits, assessed in the context of actual operations, as this would capture the level of entrainment reduction that would have been achieved by the BTA required in the 2018 Permit.

The lack of protection afforded by the CWIS flow limits is illustrated by Attachment 2. Assuming for ease of calculation that each 50 MW unit at Schiller, for the months of April through October, is capable of entraining and killing 100 units of fish per day at full operation/full CWIS flow, the maximum entrainment

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2023 Response to Comments at 33: "EPA also expects, however, and has considered in this modification, that the intake flow limits in the modified permit—which are enforceable—will on balance yield entrainment reductions in excess of 37% [the protection afforded by wedgewire screens] as compared to design flow.").

[89] 2022 Draft Statement of Basis at 7 ("This flow limit is a 66% reduction from the design flow (125.8 MGD5) and will, therefore, achieve a 66% reduction in entrainment of all early life stages during this period, which coincides with the peak period of entrainment, which is a substantial increase over the estimated 37% reduction in entrainment mortality of fish eggs and larvae achieved with wedgewire screens.").

mortality allowed under the 2023 Permit Modification CWIS flow limits for 2016-2020 would total 94,700 units of fish.[90] Assuming, as the Region does[91] that entrainment is proportional to flow, the actual operations at Schiller can be used to scale and calculate by the same ratio the entrainment mortality from April-October for 2016-2020; the resulting total figure is 61,296 units.[92] The actual entrainment mortality for this period is only 64.72% of the maximum entrainment mortality allowed under the CWIS flow limit—underscoring that the CWIS flow limits are set significantly higher than Schiller's historical behavior.

More importantly, however, Attachment 2 scales entrainment mortality by the 37% reduction figured for wedgewire screens that the Region relies on,[93] resulting in an entrainment mortality of 38,616 units of fish.[94] That figure is 41% of the entrainment mortality the Region's proposed limits would achieve (94,700 units), demonstrating that wedgewire screens based on Schiller's real-world operations would be significantly more protective than the CWIS flow limits. A similar exercise is undertaken in Tab 2 of Attachment 2 regarding macrocrustacean entrainment, again showing that screens would reduce entrainment at actual

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[90] Attachment 2, Tab 1 Column W.

[91] *See* 2022 Draft Statement of Basis at 7, n.6; 79 Fed. Reg. 48,331.

[92] Attachment 2, Tab 1 Column T.

[93] *See* 2022 Draft Statement of Basis at 7.

[94] Attachment 2, Column U.

operations more than the theoretical reductions in CWIS flow from an imaginary 100% capacity factor.

Notably, the Region admits that the CWIS flow limits would lead to an increase in macrocrustacean entrainment relative to screens, estimating that CWIS flow limits are 14% less effective than wedgewire screens for macrocrustaceans.[95] The fact that the CWIS flow limits would, even under EPA's flawed baseline assessment, lead to a tradeoff in macrocrustacean life for fish life is yet another reason why the limits fail to be an equivalent to the established BTA.

b. The 2023 Permit Modification impermissibly adopts a less stringent BTA alternative compliance option.

The 2023 Permit Modification violates the EPA's anti-backsliding regulation because the alternative compliance option is not "at least as stringent" as the BTA requirement of wedgewire screens. Under EPA's anti-backsliding regulation, the terms of a permit modification "must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit."[96] The Region itself

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[95] 2022 Draft Statement of Basis at 7 ("The proposed flow reduction will save about 384 million macrocrustacean early life stages over this period. Compared to wedgewire screens, flow reductions are estimated to be 14 percent less effective for macrocrustaceans (66% vs. 80%).").

[96] 40 C.F.R. § 122.44(l)(1). The anti-backsliding regulation applies more broadly, to all permits, than the Clean Water Act § 402(o), which applies to only some permits. 33 U.S.C. § 1342(o)(1); *see also* 2023 Response to Comments at 17-18 ("40 CFR § 122.44(l) remains effective even in light of, and is broader than, CWA § 402(o)") (citing *In re Star-Kist Caribe*, 2 E.A.D. 758 (CJO 1989) ("When Congress elevates a portion of a rule from regulatory status to statutory status to protect it from modification by agency action, it does not implicitly repeal or modify other portions

recognized that "an anti-backsliding analysis is generally required any time a permit is reissued with limits or conditions less stringent than comparable limits in the previous permit" and "may be appropriate" for future requests for modifications to the Schiller Station NPDES permit.[97]

To address entrainment, the 2018 Final Permit required installation of wedgewire screens with a slot size no greater than 0.8mm.[98] In contrast, the 2023 Final Permit Modification requires *no* screens and simply limits monthly average CWIS flows to 33% during warmer months and 66% during the winter, with a 12-month average of 24%.[99] This condition does not result in reduction in entrainment at Schiller, because, as illustrated above, Schiller almost never operates above 33% capacity factor.[100] In fact on most days, the permit modifications would allow increases in flow levels—and accordingly, entrainment—at Schiller Station.[101] In

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of the rule itself."); 54 Fed. Reg. 246 at 252 ("EPA's regulation at § 122.44(l)(1) restricts backsliding in cases not covered by the WQA amendments.")).

[97] 2023 Response to Comments at 17-18. The Region made this comment in regards to *future* requests for modification by GSP for entrainment and impingement. However, the Region's reasoning likewise applies to the permit modification at issue in this appeal because the Region modified the impingement and entrainment requirements in the 2023 Final Permit Modification.

[98] 2018 Final Permit at 11-12.

[99] 2023 Final Permit Modification at 4.

[100] *See* Sierra Club & Conservation Law Foundation, Comments on EPA's Proposed Modification of the 2018 NPDES Permit for Schiller Station (Permit No. NJ0001473) at 5 (Nov. 17, 2022).

[101] *Id.*

contrast, EPA found that wedgewire screens of 0.8 mm slot size would reduce entrainment by 37%, at whatever level Schiller Station is operating.[102] Thus, the entrainment terms of the 2023 Final Permit Modification are not "at least as stringent" as the 2018 Final Permit and violate the anti-backsliding requirement.[103]

The exception to the application of the anti-backsliding requirement, when the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued,[104] does not apply—nor has the Region so argued. Regardless, no such "material and substantial" changes in conditions have occurred. For example, in its request for modification of the entrainment requirement, GSP claimed that it "experienced operational and equipment issues" with screens, and that they may be "more complex than anticipated."[105] In its Statement of Basis for the 2023 Permit Modification, the Region made clear that "the performance of the technology during the pilot study *is not central to this modification*."[106] Further, in 2018 the Region recognized that "the recent declines in generating capacity at Units 4 and 6, which are likely largely influenced by the shift towards natural gas-fired generation in New England, are

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[102] 2015 Fact Sheet at 114-18; *see also* 2023 Response to Comments at 6.

[103] 40 C.F.R. § 122.44(l)(1).

[104] 40 C.F.R. § 122.44(l)(2).

[105] 2022 Draft Statement of Basis at 4.

[106] *Id.* (emphasis added).

expected to continue."[107] Schiller's low capacity factors have been entirely expected and anticipated by the Region for half a decade. Therefore, the Region could not claim that they constituted a "material and substantial" change in conditions, and, more to the point, the Region has not so claimed in justifying weakening the 2018 Permit.[108]

3. The Region's arbitrary and clearly erroneous approach would set a perverse precedent for regulation of environmental harms.

Troublingly, the Region's approach here would set a perverse precedent for regulation of any discharge or source of pollution. If wedgewire screens reduce entrainment by 37%, the Region's analysis could conclude that flow levels consistent with a 63% capacity factor "reduce" entrainment by just as much from a theoretical 100% capacity factor, and that since Schiller has not operated above a 61% capacity factor since 2009, no screens or other mitigation technology are necessary. If the Region's reasoning stands, then any plant that operates at a low capacity factor or any polluting entity that operates infrequently could undergo such a theoretical exercise, reasoning that as compared to a fictitious world where the plant operates at 100% capacity factor, a reduction of environmental harm could be achieved

[107] 2018 Response to Comments, at 294.

[108] Indeed, had the Region pointed to lowered capacity factors as a changed condition necessitating a weakening of the 2018 permit, the problematic nature of setting alternative operation "limits" well-above those lowered capacity factors would be all the more starkly apparent.

simply by requiring the plant to operate at the levels at which it already operates, resulting in no additional protection to the ecosystem.

The Board should remand the permit to the Region and require that it revisit the erroneous and arbitrary decision-making surrounding the BTA alternative compliance option. The Board should direct that should a BTA alternative compliance option be adopted, it be equally as stringent as the previously determined BTA.

VIII.

CONCLUSION

For the foregoing reasons, Petitioners respectfully seek review by the Board of the terms of the 2023 Permit Modification outlined herein. After such review, Petitioners request that the Board remand the contested conditions, decisions, and determinations in the issuance of NPDES Permit No. NH0001473.

Dated: June 16, 2023

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 14,000 words. Not including the cover page; table of contents; table of authorities; table of acronyms, abbreviations, and symbols, signature block, table of attachments, statement of compliance with word limitation; and certificate of service, this petition contains 8,707 words (including footnotes), as counted by Microsoft Word. This petition is written in Century Schoolbook, 12 point font.

/s/ *Sarah Krame*
Sarah Krame

CERTIFICATE OF SERVICE

I, Sarah Krame, hereby certify that on June 16, 2023, 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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