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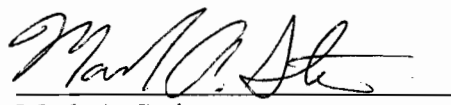
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**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGIONAL APPEALS BOARD
WASHINGTON, D.C.**

In re: USGen New England, Inc. Brayton Point Station NPDES Permit No. MA 0003654))))))	NPDES Appeal No. 03-12
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**EPA REGION 1 BRIEF IN RESPONSE TO BRIEFS OF USGenNE and UWAG IN
SUPPORT OF USGenNE'S NPDES PERMIT APPEAL**

Dated: July 8, 2004



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

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ENVIR. APPEALS BOARD

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July 8, 2004

Eurika Durr, Clerk of the Board
Environmental Appeals Board
U.S. Environmental Protection Agency
1341 G Street NW, Suite 600
Washington, D.C. 20005

Re: In re USGen New England, Inc.; Appeal Number NPDES 03-12

Dear Ms. Durr:

In connection with the above-referenced permit appeal, please find enclosed for docketing in the above-referenced NPDES permit appeal an original and five copies of EPA Region 1's Brief in Response to Briefs of USGenNE and UWAG in Support of USGenNE's NPDES Permit Appeal.

As indicated in the Certificate of Service, copies of this motion have been served on all other parties to this proceeding by Federal Express or, in one case, by regular mail because we do not have a street address for the party.

Thank you for your attention to this matter.

Sincerely,

Mark A. Stein
Senior Assistant Regional Counsel
Office of Regional Counsel

cc: Recipients Listed on Certificate of Service

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**EPA REGION 1 BRIEF IN RESPONSE TO BRIEFS OF USGenNE and UWAG IN
SUPPORT OF USGenNE'S NPDES PERMIT APPEAL**

On February 19, 2004, the Environmental Appeals Board granted review of USGen New England, Inc.'s ("Petitioner"), petition challenging an NPDES permit issued by Region 1 of the United States Environmental Protection Agency to the Brayton Point Station power plant ("BPS") on October 6, 2003. For reasons set forth below, the permit should be upheld.

SUMMARY OF ARGUMENT

The NPDES permit at issue in this appeal has great environmental importance. The permit limits at issue are consistent with applicable law and reflect careful, reasonable consideration of the relevant biological, technical, economic, and policy issues.

Petitioner challenges the permit's thermal discharge limits under Section 316(a) of the Clean Water Act ("CWA"), 33 U.S.C. § 1326(a), which requires limits "that will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on" the water body receiving the discharge (the "BIP"). Region 1 imposed these limits based on a determination that they would, consistent with CWA § 316(a), reasonably assure the protection and propagation of the BIP of the Mount Hope Bay estuary, the water body receiving BPS's effluent, after finding that Petitioner's proposed limits would not satisfy § 316(a).

Second, Petitioner challenges the permit limits controlling water withdrawals through the plant's cooling water intake structures. These limits implement CWA § 316(b), 33 U.S.C. § 1326(b), which requires, among other things, that the capacity of such structures "reflect the best technology available for minimizing adverse environmental impacts" ("BTA"). Cooling water intake limits must also satisfy applicable state water quality standards. The permit's intake limits were based on the technology of converting BPS's open-cycle cooling system to a closed-cycle

system using “mechanical draft wet cooling towers.” The Region found on a Best Professional Judgment (“BPJ”) basis that converting to closed-cycle cooling is the BTA at BPS. Region 1 specifically determined that such a conversion would be economically and technologically practicable and that the cost of meeting the intake limits, even using Petitioner’s cost estimate, would not be wholly disproportionate to the benefits of the resulting improvement in environmental performance. In addition, the Region determined that the intake limits could not be made significantly less stringent without violating state water quality standards for both Massachusetts and Rhode Island, a determination supported by both states. *See* Region 1 Response to Petition for Review (Dec. 24, 2003) (“Reg. 1 Resp.”) at 10.

The thermal discharge and cooling water intake limits should be upheld by this Board.

STANDARD OF REVIEW

Region 1 has already discussed the Board’s standard of review in its Response to the Petition for Review. *Id.* at 26-29. Ordinarily, the Board reviews permits under 40 C.F.R. § 124.19 only when the petition for review shows a “clearly erroneous finding of fact or conclusion of law or involves an important policy consideration which the Board, in its discretion, should review.” *In re: Teck Cominco Alaska Inc., Red Dog Mine*, NPDES Appeal No. 03-09, slip op. at 21 (EAB, June 15, 2004). “The Board has consistently noted that this authority is to be ‘sparingly exercised’ and that ‘most permit conditions should be finally determined at the Regional level.’” *In re NE Hub Partners*, 7 E.A.D. 561, 567 (EAB 1998) (citation omitted).

Regarding “issues that are essentially technical in nature[,]” the Board “traditionally assigns a heavy burden” to petitioners. *In re: City of Moscow, Idaho*, 10 E.A.D. 135, 142 (EAB, 2001). The Board reviews technical matters to determine “whether the record demonstrates that

the Region duly considered the issues raised in the comments and whether the approach ultimately adopted by the Region is rational in light of all the information in the record.”

Moscow, 10 E.A.D. at 142; *see also NE Hub*, 7 E.A.D. at 568. Petitioners do not establish clear error or an exercise of discretion warranting review merely by presenting “a difference of opinion or an alternative theory regarding a technical matter.” *In re Town of Ashland Wastewater Treatment Facility*, 9 E.A.D. 661, 667 (EAB 2001); *NE Hub*, 7 E.A.D. at 567.

Similarly, when a Petitioner objects to a policy choice made by the Region, the Board will consider whether “the path charted by the Region was legitimate and legally authorized” and, if so, whether the Region’s reliance on related record material was clearly erroneous. *In re Phelps Dodge Corp. Verde Valley Ranch Development*, 10 E.A.D. 460, 522 (EAB 2002) (finding no abuse of discretion in EPA’s exercise of a “significant policy choice” to regulate site under the CWA instead of the Comprehensive Environmental Response, Compensation, and Liability Act and no clear error in EPA’s reliance upon certain studies).

ARGUMENT

I. Region 1’s CWA § 316(a) Variance-Based Thermal Discharge Permit Limits Had a Rational Basis, Were Consistent with Applicable Law, and Should be Upheld

The permit’s thermal discharge limits are based on a CWA § 316(a) variance from otherwise applicable (and more stringent) technology and water quality standards requirements.¹

A § 316(a) variance determination is based on a *site-specific* analysis of the relevant biological

¹ While the Region evaluated what the thermal discharge limits for BPS would be based on the technology standard of Best Available Technology (BAT), ultimately the thermal limits for BPS were based on a CWA § 316(a) variance, not BAT, *see* Reg. 1 Resp. at 8, n. 13, and the variance-based limits are less stringent than the BAT-based limits would have been. Therefore, issues related to the Region’s BAT determination are essentially moot. Nevertheless, the Region’s BPJ decision properly determined BAT limits *for BPS*. *See* Ex. 4, Ch. 4, and Ex. 2, Ch. VIII. Since there are no applicable national guidelines for thermal discharge from steam electric plants, BAT-based thermal discharge limits must be set on a BPJ basis. *See* Reg. 1 Resp. at 15 n. 17; Ex. 2 at Ch. VIII: 1-5.

issues.² Although neither the statute nor applicable regulations dictate precisely how the determination should be made, *see* Reg. 1 Resp. at 76-77, 31, 16, the Region appropriately used the Agency's Draft § 316(a) Technical Guidance Manual from 1977, Ex. 32 (the "1977 Draft § 316(a) Guidance"), to inform its analysis. Reg. 1 Resp. at 77. The Region's variance determination was reasonable in light of the collapse of fish populations and degradation of the overall biological community in Mt. Hope Bay complex and unavoidable uncertainty regarding scientific matters at issue. *Id.* at 78.³ Region 1 properly set limits to achieve the requirement of § 316(a): assuring the protection and propagation of the BIP of Mt. Hope Bay. Region 1's § 316(a) determination was rational, adequately explained, and consistent with applicable law, guidance and evidence in the record. The Region's technical determinations should be granted deference by this Board and its decision upheld.

A. Thermal Discharge Limits Set Under a CWA § 316(a) Variance Must Be Stringent Enough to "Assure" Protection and Propagation of the BIP

Under § 316(a), the permit applicant seeking a variance bears the burden to demonstrate that its proposed alternative limits "will assure" the protection and propagation of the BIP. *See*

² Thus, Petitioner's allegations of disparate treatment are irrelevant here. *See* Reg. 1 Resp. at 30-32; Ex. 2, p. III-8 (citing, among other things, *In the Matter of: Public Service Company of Indiana, Inc., Wabash River Generating Station*, 1 E.A.D. 590, 600 (Adm'r, Nov. 29, 1979) ("each Section 316[(a)] proceeding, by its very nature, is necessarily unique")). *See also In the Matter of Public Service Company of New Hampshire (Seabrook Station, Units 1 & 2)*, 1 E.A.D. 332, 346 (Adm'r, June 17, 1977) ("[n]o hard and fast rule can be made as to the amount of data that must be furnished . . . [m]uch depends on the circumstances of the particular discharge and receiving waters"); Ex. 32 (1977 Draft § 316(a) Guidance) at 8 ("manual is intended to be used as general guidance" and Region may specify a different plan). Furthermore, contrary to the suggestions of Petitioner and UWAG, Region 1 provided evidence of other power plants having converted from open-cycle to closed-cycle cooling systems, some of which conversions were undertaken to better control thermal discharges. *See* Attachment A to this Brief ("Att. A") (new Ex. 90) (series of Region 1 file memoranda concerning cooling system conversions; AR 3082, 3330, 3328, 3002, 2326, 2183). *See also* Reg. 1 Resp. at 32; 67 Fed. Reg. 17122, 17154-55 (April 9, 2002).

³ While certainty in this realm is likely impossible, the Administrator has stated that "[t]he greater the risk, the greater the degree of certainty that should be required" in a § 316(a) evaluation. *Pub. Serv. Co. of New Hampshire*, 1 E.A.D. at 347 *See also* Ex. 4 at Ch. 6: 9-12; 44 Fed. Reg. 32894 (June 7, 1979).

Reg. 1 Resp. at 17, 69-71, 139.⁴ In this case, the Region determined that Petitioner had not carried its burden. At that point, Region 1 could have denied Petitioner's variance request and set the thermal discharge limits based on the otherwise applicable, and more stringent, technology and water quality requirements. Instead, the Region determined that alternative variance limits, albeit more stringent than those proposed by Petitioner, would be sufficient to satisfy § 316(a). *See* Ex. 2 at Ch. III: 69-70; Reg. 1 Resp. at 17, 69, 71 (and record citations therein). Petitioner's challenge to these limits assumes that the Region's burden is to demonstrate that they are the least stringent limits possible to protect the BIP. Neither the statute nor the regulations place such a burden on the Region. On the contrary, the Region must have a rational basis for denying Petitioner's proposed alternative limits and must show that the Region's alternative limits will assure the protection and propagation of the BIP. The record supports the Region's conclusions in both respects, as discussed below.

B. Region 1 Reasonably Denied the Thermal Discharge Variance Limits Proposed by Petitioner Under CWA § 316(a)

1. Region 1 Reasonably Rejected Petitioner's Retrospective CWA § 316(a) Variance Demonstration

An existing discharger may seek a CWA § 316(a) variance on the grounds that there has been "no appreciable harm" to the BIP from its past thermal discharges (a "retrospective demonstration"). The Region reasonably rejected Petitioner's attempted demonstration. *See*

⁴ *See also* 33 U.S.C. § 1326(a); 40 C.F.R. § 125.73(a); *Pub. Serv. Co. of New Hampshire*, 1 E.A.D. at 346 ("the [applicant's] burden of proof in a 316(a) case is a stringent one"). Regarding § 316(a), the Report of the Conference Committee on the Clean Water Act of 1972, stated, "[u]nder the conference agreement thermal pollutants will be regulated as any other pollutant *unless an owner or operator can prove* that a modified thermal limit can be applied which will assure 'protection and propagation' of . . . [the BIP]." Cong. Res. Serv., "A Legislative History of the Water Pollution Control Act Amendments of 1972, Vol.1", 93 Cong., 1st Session, p. 175 (emphasis added).

Reg. 1 Resp. at 69-70; Ex. 4 at Ch. 6: 55-57. BPS has been discharging substantial amounts of heat into Mt. Hope Bay for decades. In developing the current permit, the Region learned that BPS's thermal discharge plume was greater in scope and intensity than predicted during development of prior permits and covered more than the entire bay on an outgoing tide, affecting an area of at least 14 square miles.⁵

The Mt. Hope Bay estuary provides critical spawning and nursery habitat to many species of commercial, recreational, and ecological importance. Reg. 1 Resp. at 4. EPA has long recognized that estuarine habitats deserve the highest level of protection and generally disfavors § 316(a) variances for thermal discharge to these areas.⁶ This consideration, and the documented deterioration of the BIP of Mt. Hope Bay, *see* Reg. 1 Resp. at 4, Ex. 4 at Ch. 6: 54-55, stiffen the already stringent burden of proof faced by an applicant for a § 316(a) variance. *See* n. 3, *supra*.

Region 1 comprehensively evaluated multiple species at different trophic levels in order to assess the impacts of BPS's existing thermal discharge on the BIP.⁷ Data regarding species comprising the BIP revealed that this ecological community has suffered major adverse impacts and BPS's operations likely have contributed significantly to them. Among the most significant

⁵ Ex. 4 at 3-2 n. 1. *See also* Att. B hereto (Excerpts from Ex. 39 (AR 101) (Satellite images of BPS thermal plume) and Ex. 2, Fig. 2 and Ex. 4, Fig. 2.2-1 (maps of Mt. Hope Bay)); Reg. 1 Resp., Table 1 at 12, 16; Ex. 4 at 6-23; Ex. 2 at Ch. III: 19-20, 58.

⁶ *See* Ex. 32 (1977 Draft § 316(a) Guidance) at 24-25 ("Areas which serve as spawning and nursery sites . . . are considered as zero allowable impact areas and will be excluded from consideration for the discharge of waste heat. Plants sited in locations which would impact these critical functions will not be eligible for a 316(a) waiver. Most estuarine sites will fall into this category."), 66-68 (recommending avoiding discharges to spawning and nursery areas).

⁷ *See* Ex. 4 at Ch. 6: 14-54; Ex. 32 at 18-34. While Region 1 used the 1977 Draft § 316(a) Guidance as a useful construct for assessing thermal impacts, it is only guidance. Therefore, it cannot, as Petitioner suggests, establish binding requirements for what a Region must do in every case. *See* Ex. 2 at III-14. Indeed, the document primarily describes what *permit applicants* should address in order to get a § 316(a) variance. Ex. 32 at 13-17.

of these effects was the rapid population decline of 16 of 21 of Mt. Hope Bay's finfish species in the mid-1980s.⁸ This dramatic decline in finfish abundance coincided with substantially increased thermal discharges and cooling water withdrawals by BPS due to conversion of its fourth generating unit from closed-cycle to open-cycle cooling coupled with increased plant operations. *See* Att. C hereto (Ex. 4, Fig. 2.6-2: graph of winter flounder abundance v. BPS operations); Reg. 1 Resp. at 50-51, 120-23. While this correlation in time does not prove a causal link, Reg. 1 Resp. at 50, data regarding finfish responses to thermal stress supports a linkage. It is undisputed that species such as winter flounder, hogchoker, tautog and striped bass will avoid areas of elevated water temperature.⁹ Furthermore, the Region concluded that overfishing or other regional problems are unlikely to be solely responsible for the Mt. Hope Bay decline. *See* Reg. 1 Resp. at 48-51, 120-22; Ex. 4 at Ch. 6: 47-54.

As discussed further below, research indicates that the temperature and reach of BPS's thermal discharge plume would be capable of causing fish to avoid key spawning and nursery habitat, of decreasing hatching success and larval survival in winter flounder, Ex. 4 at Ch. 6: 34-38; Ex. 2 at Ch. III: 18-19, 33-34; Reg. 1 Resp. at Table 1 at 8-9, 10-11, of prompting burrowing

⁸ *See* Ex. 4, Ch. 2: 2-4; Ex. 2 at Fig. 12, Ch. VII: 27 (historical trends in both bays), 28-29, 36-38; Collie and DeLong (Ex. 33, Vol. VI, Part II, p. 18). Gibson (1996) demonstrated that since 1972, the populations of 4 finfish species declined at a statistically significantly greater rate in Mt. Hope Bay than in Narragansett Bay, with the greatest rate of decline occurring in the mid-1980s. *See* Reg. 1 Resp. at 120-21; Ex. 4 at Ch. 6: 28-29; Ex. 2, Ch. III: 43-44, Ch. VII: 21-22, 25-29. The Region also addressed the analysis by Petitioner's consultant, Dr. Joseph DeAlteris. Reg. 1 Resp. at 116-17, 40-41, 67-68. Even Petitioner's consultant conceded that there was at least a significant difference between Narragansett Bay and what he called "upper Mt. Hope Bay" (equivalent to a 5-square mile impact area). Ex. 2 at Ch. III: 44, 7.

⁹ *See, e.g.*, Ex. 2 at Ch. III: 31-33, 38. Moreover, an analysis of depth distribution of adult winter flounder in Mt. Hope Bay reveals they are overwhelmingly found in deeper, and thus cooler, areas. Thus, these fish appear to be avoiding the shallow (*i.e.*, warmer) portions of Mt. Hope Bay. In contrast, adult winter flounder in Narragansett Bay do not exhibit this marked preference for deep water. Ex. 2 at Ch. III: 36-39; Ex. 4 at Ch. 6: 44, 55. Reg. 1 Resp., Table 1 at 18-19. *See also* Ex. 4 at Ch. 6: 37, 45; AR 3339 (Bevelhimer & Coutant (2002).

and cessation of feeding by winter flounder, Ex. 2 at Ch. III: 28-29, of interrupting migration by various species,¹⁰ and of causing secondary ecological effects such as increased predation on winter flounder eggs by sand shrimp. Ex. 2 at Ch. III: 10-11, 18-19. The Region also found documented impacts associated with heightened water temperatures to non-fish species in Mt. Hope Bay, including mass mortalities of blue mussels, Ex. 2 at Ch. III: 60-61, out-of-season, mid-winter occurrence of ctenophores (a type of jellyfish usually found in summer), Ex. 4 at Ch. 6: 24-25; Ex. 2 at Ch. III: 17-18; Reg. 1 Resp, Table 1 at 14-15, and at least one bloom of blue-green algae, a nuisance species that thrives in warm water. Ex. 4 at Ch. 6: 21-22; Ex. 2 at III-16; Reg. 1 Resp., Table 1 at 13-14. The Region reasonably concluded that BPS's thermal discharge has at least contributed to these adverse impacts, and Petitioner has not presented persuasive evidence to the contrary. *See* Reg. 1 Resp. at 69-71; Ex. 4 at Ch. 6: 44-45, 50-57.

In contrast to the Region's evaluation, Petitioner focused principally on impacts to 10 species of finfish and did not address ecological implications for the entire BIP. *See, e.g.*, Ex. 4 at Ch 6: 36-37, 43-44. Petitioner has suggested that other factors, such as overfishing or global warming, are responsible for the decline in fish abundance. *See* Reg. 1 Resp. 50-51. The Region has considered these factors and explained why it is unlikely that these factors alone are to blame for deteriorated fish populations and has pointed out that these other stressors (including the BPS intake) constitute cumulative impacts that only render BPS's adverse thermal effects of greater

¹⁰ Large numbers of striped bass and lesser numbers of bluefish overwinter in BPS's thermal plume instead of completing their normal fall migration, indicating that the artificially warm water is interrupting their natural migration. Also, lymphocystis, a sometimes fatal disease in striped bass, has been observed in some percentage of these fish. The disease is common in crowded schools of fish that remain in thermal plumes. Ex. 4 at 6-43; Ex. 2 at III-59. In addition, large numbers of young-of-the-year Atlantic menhaden routinely fail to migrate out of Mt. Hope Bay, becoming trapped in BPS's thermal plume during the winter and then impinged by the BPS cooling water intake system. Ex. 4 at 6-44, Ex. 2 at Ch. III: 38-39.

concern under § 316(a). *Id.*; Ex. 4 at Ch. 6: 47-50. Petitioner appears to argue that the Region must isolate the discrete effect of the thermal discharge and set permit limits based only on a consideration of that factor. Pet. Br. at 10. This approach of ignoring cumulative impacts is at odds with the regulations, however, and, in any event, could not reliably be accomplished. *See* Ex. 2 at Ch. III: 41-42, 73, 5. According to 40 C.F.R. § 125.73(a), a § 316(a) evaluation clearly must consider the “cumulative impact of . . . thermal discharge together with all other significant impacts on the species affected.”¹¹ The Region reasonably concluded that BPS’s thermal discharge has contributed to the collapse of fish populations, along with other stressors such as overfishing and BPS cooling water withdrawals. Ex. 4 at Ch. 6: 44-58. Although strict fishing restrictions and major municipal water pollution control improvements have been instituted, fish populations have not rebounded and the other thermal-related problems described above have occurred in the interim. *Id.* at Ch. 6: 55-56; Ex. 2 at Ch. III: 41-42. Region 1’s conclusions about BPS’s adverse effects on the BIP, and its rejection of Petitioner’s retrospective variance demonstration, are reasonable. Reg. 1 Resp. at 69-70, 73.

2. Region 1 Reasonably Determined That Petitioner Failed to Demonstrate That its New Proposed Thermal Discharge Limits Would Assure the Protection and Propagation of the BIP

Having determined that Petitioner did not carry its burden of demonstrating that BPS’s discharge had not caused “appreciable harm” to the BIP of Mt. Hope Bay, *see* 40 C.F.R. § 125.73(c)(1)(i), Region 1 and other regulatory agencies worked with Petitioner to develop a temperature threshold analysis to estimate the impacts to the Mt. Hope Bay BIP that would result

¹¹ *See* Reg. 1 Resp. at 17 & n. 19; Ex. 2 at III-41; *Pub. Serv. Co. of New Hampshire*, 1 E.A.D. at 341 (“effect of the discharge must be determined not by considering its impact on some hypothetical unstressed environment, but by considering its impact on the environment into which the discharge will be made . . .”).

from the new thermal discharge limits proposed by Petitioner (a “prospective demonstration”). Ex. 4 at Ch. 6: 30-35; Reg. 1 Resp. at 69-70. Region 1 determined that Petitioner’s modeling effort ultimately failed to satisfy § 316(a)’s stringent burden for several key reasons. *See, e.g.*, Ex. 2 at Ch. III: 23-24. First, the temperatures selected by Petitioner as “optimal” actually reflect, for some species, levels at which appreciable adverse thermal effects occur. Ex. 4 at Ch. 6: 32-33; Ex. 2 at Ch. III: 32-33. Second, Petitioner’s assessment relied heavily on a misapplication of thermal acclimation. Ex. 4 at Ch. 6: 34-36; Ex. 2 at Ch. III: 10-11, 27-29; Ex. 34. Third, Petitioner’s assessment did not account for ecosystem effects associated with its thermal plume. Ex. 4 at Ch. 6: 35-37. These flaws led Petitioner to underestimate the impacts of its proposed thermal discharge.¹² The Region repeatedly expressed these and other concerns, but Petitioner did not resolve them.

C. Region 1's Thermal Impact Analysis Provided a Reasonable Basis for Rejecting Petitioner's Proposed Thermal Discharge Limits and Setting The Alternative CWA § 316(a) Variance-Based Limits Included in the Permit

Having reasonably concluded that Petitioner failed to demonstrate that its proposed thermal discharge limits would assure protection and propagation of the BIP, Region 1 went on to assess both Petitioner’s proposed limits and alternative limits using the approach described below. The principal differences between the analyses by Petitioner and Region 1 are the way in which the concept of thermal “acclimation” is applied and the selection of threshold temperatures. *See, e.g.*, Ex. 4 at Ch. 6: 34-36; Ex. 2 at Ch. III: 23-29. These analyses require

¹² The Agency has explained that it “may not speculate as to matters for which evidence is lacking,” *Public Service Company of New Hampshire*, 1 E.A.D. at 346, and that if “deficiencies in information are so critical as to preclude reasonable assurance, then alternative effluent limitations should be denied.” *Id.* at 347 (quoting 1977 Draft EPA § 316(a) Guidance). *See also Wabash*, 1 E.A.D. 607-09.

judgment in the face of unavoidable scientific uncertainty and Region 1 has applied its scientific judgment in a well-reasoned manner consistent with applicable regulations, guidance, and the policy goals of CWA § 316(a). The Region also carefully considered and responded to comments by Petitioner and others regarding its analysis. Moreover, arguments by Petitioner that Region 1's limits are *too stringent* cannot establish that the Region failed to carry its burden of setting limits *stringent enough* to assure protection and propagation of the BIP.

1. Region 1 Reasonably Evaluated the Entire BIP for Mt. Hope Bay and Based its Thermal Discharge Limits on the Most Sensitive Species

Consistent with EPA's Draft 1977 § 316(a) Guidance, Ex. 32, Region 1 assessed thermal discharge effects to the Mt. Hope Bay BIP, including consideration of the current status of and potential impacts to finfish, phytoplankton, zooplankton, macroinvertebrates, and "habitat formers" (such as eelgrass), in Mt. Hope Bay. See Ex. 32 at 22 (Guidance discussion concerning habitat formers). For example, critical temperatures were evaluated for 26 species of finfish (e.g., winter flounder, striped bass, tautog) at their various life stages.¹³ Growing out of this broad review, Region 1's thermal discharge limits were ultimately keyed to the critical temperatures identified for winter flounder.¹⁴ EPA indicated in *Wabash*, 1 E.A.D. at 600, that when assessing the BIP, "it is clear that both individual [species] and community considerations are relevant."

Basing thermal limits on the most sensitive species in the BIP is a rational approach to

¹³ See Ex. 4 at Ch. 6: 14-21 (criteria from 1977 Draft Guidance), 6-21 to 6-45 (assessing each community in Mt. Hope Bay), 45-54 (cumulative, non-thermal impacts to BIP); Ex. 2 at Ch. III: 35-36. See also n. 12, *supra*.

¹⁴ Striped bass were the most sensitive species in the summer pelagic (or upper) layers of the water column (with a critical avoidance temperature of 25°C), while winter flounder larvae were most sensitive in the winter pelagic layer (with an optimum survival and growth temperature of 8°C). Ultimately, however, critical temperatures in the bottom waters determined the permit limits. See Ex. 4 at Ch. 6: 37-38.

assuring protection of the entire BIP when the most sensitive species are both ecologically and economically important.¹⁵ Furthermore, this approach is reasonable in this case because winter flounder are the most important commercial and recreational species in the BIP. Indeed, prior to the fishery collapse in Mt. Hope Bay, winter flounder comprised over 50% of the catch by number of fish. *See* Ex. 66 at 2-4 (Duffy & Luders (1978)); AR 415 (USGen (1999)). *See also* Reg. 1 Resp. at 71-72. At present, of course, both Massachusetts and Rhode Island have prohibited commercial fishing and most recreational fishing in Mt. Hope Bay due to the collapse of the population of winter flounder and many other species (e.g., tautog, windowpane flounder), and the States' desire to promote a recovery. *See* Reg. 1 Resp. at 4, 44-45, 94; Ex. 2 at Ch. II: 4, 1, 3, 6, and Ch. III: 44; Ex. 4 at 6-47.

2. Region 1 Reasonably Set Thermal Discharge Limits Under CWA § 316(a) Based on an "Area Impacted" Approach

Region 1 developed the thermal discharge limits using an "area-impacted" analytical approach long supported by EPA.¹⁶ This approach identifies likely adverse biological effects associated with critical water temperatures, and seeks to minimize them in important habitat areas to assure protection and propagation of the BIP. Region 1 examined thermal tolerance data for the "Representative Important Species" (26 finfish, 2 shellfish, and eelgrass) in Mt. Hope

¹⁵ *See* Reg. 1 Resp. at 18; Ex. 4 at 6-6. EPA's 1977 Draft § 316(a) Guidance emphasized that "[t]he most thermally sensitive species (and species group) in the local area should be identified and their importance should be given special consideration," as should species of commercial or recreational value. Ex. 32 at 37-38. *See also* Ex. 2 at Ch. III: 8-9, 35-36 (basing thermal limits on "worst case scenario" or most sensitive species is accepted practice under § 316(a)).

¹⁶ *See* Ex. 32 at 65-71 (supporting use of "resource zones" as decision criteria, including spawning and nursery habitat, and taking into account acceptable area of damage relative to resource value of impacted area). *See also* Ex. 4 at 6-9 (explaining that mixing zone concept may be used in the context of designing CWA § 316(a) permit limitations, so long as the analyses were designed to assure the protection and propagation of the BIP); EPA Decision of the General Counsel, *In re Sierra Pacific Power Company*, EPA GCO 31 (October 13, 1975).

Bay, Ex. 4 at 6-31, and determined which life stages of each species were likely to occur in each layer of the Mt. Hope Bay water column in summer and winter, and which were most sensitive to temperature. Ex. 4 at Ch. 6: 37-42. The Region then selected "critical temperature" values for the most sensitive species (and life stage) in each layer of the water column based on consideration of the scientific literature and field data. Ex. 4 at Ch. 6: 37-38; Ex. 2: Ch. III: 34-36. *See also* AR 3339 (Bevelhimer & Coutant (2002)).

Winter flounder *juveniles* were identified as most thermally sensitive in bottom waters in the summer, and winter flounder *eggs* as most sensitive in bottom waters in the winter. Therefore, the critical value for summer (24°C in bottom waters) was based on temperatures that would trigger *avoidance* by juvenile winter flounder of key nursery habitat, while the critical value for winter (5°C in bottom waters) was based on temperatures associated with improved winter flounder egg viability in key spawning areas. Ex. 4 at Ch. 6: 37-38.

Region 1 then used Petitioner's hydrothermal model to determine how much of Mt. Hope Bay would exceed the critical temperatures based on the existing thermal discharge, Petitioner's proposed permit limits, and three other operating scenarios, including the no discharge condition. Ex. 4 at Ch. 6: 39-42, 31. Region 1 asked Petitioner to run the model using temperatures from the warmest year (1999) in the last ten as background conditions.¹⁷ The Region also requested Petitioner to run its hydrothermal model to estimate areas that would exceed critical temperatures for 1, 2, 3, 4 and 5 or more days out of a 30-day operating period. Region 1 based its evaluation

¹⁷ Ex. 4 at 6-36. This approach is conservative, but reasonable considering that multiple investigators (Keller, 1999; Scherer, 2002; Sullivan, et al., 2001) have documented a long term, consistent rise in water temperature in Narragansett Bay and in Mt. Hope Bay. The rate of increase has been estimated to be about 2°C in 40 years, while it has been estimated that BPS will remain in operation at least 20 more years. Thus, using the 1999 data is not unreasonable for this analysis. Moreover, EPA has called for "worst case" scenarios to be considered under § 316(a). *See Wabash*, 1 E.A.D. at 607-09.

of thermal discharge effects on the “5 or more” days model runs after biologists from Region 1 and the state regulatory agencies agreed that this time period would be reasonable for representing an appreciable impact from thermal avoidance or other adverse outcomes.¹⁸ The Region also examined computer simulations of BPS’s thermal plume produced by Petitioner’s hydrothermal model, as well as a series of satellite images collected by Dr. Jack Mustard of Brown University, to understand the regular movement of the plume in response to tidal action. Ex. 4 at 6-23; Ex. 2 at Ch. III: 10, 67; Exs. 38, 39, 40. *See also* Att. B hereto.

Region 1 then calculated a thermal discharge limit that it determined would avoid appreciable harm to spawning and nursery habitat for winter flounder and other species – an especially important goal in view of the depleted fish populations in the Mt. Hope Bay estuary. Ex. 2 at Ch. III: 30-31; Ex. 4 at Ch. 6: 56-57. This is consistent with the 1977 EPA Draft § 316(a) Guidance’s recommendation to avoid thermal discharges to spawning and nursery areas, and to generally minimize the effects of thermal plumes. Ex. 32 at 65-66, 68; Ex. 2 at III-30; Ex. 4 at Ch. 6: 19-20, 27, 56-57. Region 1 plotted on a map the maximum area a thermal plume from BPS could occupy while still avoiding the majority of key identified nursery habitat areas.¹⁹ *See* Att. D hereto (Ex. 2, Fig. 13). *See also* Ex. 2 at III-31; Ex. 4 at Ch. 6: 56-57. This area

¹⁸ Ex. 2 at III-30. The Region has explained that the “5 days or more” time period in most cases represented a far greater time period than just 5, 6 or 7 days. Once again, the Region notes that this is the *least* conservative time period from the modeling runs provided, and the Region could also reasonably have chosen a shorter time period which would have resulted in *more stringent* limits.

¹⁹ Important spawning and nursery habitat for many species, including winter flounder, is concentrated in the shallow areas of the lower estuarine portions of rivers, such as the areas near to BPS. *See* Att. D hereto (Ex. 2, Fig. 13). *See also* Ex. 2 at Ch. III: 30-31, 73; Ex. 4 at Ch. 6: 56-57.

covered only approximately 10 percent of Mt. Hope Bay. *Id.*²⁰ The Region then used a second order polynomial equation to derive the thermal discharge (in trillions of BTUs (“tBTUs”) that would correspond to a discharge plume exceeding the selected critical summer temperature (24°C in the bottom waters for five or more days per month) in an area no larger than the 10 percent portion of Mt. Hope Bay identified above. *See* Ex. 4 at Ch. 6: 56-57, Fig. 6.3-14; Ex. 2 at Ch. III: 30-31. These calculations yielded a summer *monthly* thermal discharge limit of 0.14 tBTUs. Ex. 4 at 6-56.²¹

In contrast, Petitioner’s proposed limits would result in a thermal plume exceeding 24°C in the bottom waters in approximately 62 percent of the bay, including known winter flounder nursery and spawning habitat. Ex. 4 at 6-39; Ex. 2 at III-13. The extent of such a thermal plume would not be substantially less than the existing plume, which impacts 75 percent of the bay’s bottom waters. *Id.* *See also* Att. E hereto (excerpt from Ex. 62: thermal plume model projections). Given that the existing thermal discharge has resulted in appreciable harm to the BIP, a similar result would be expected under Petitioner’s proposal.

Region 1 determined based on available information that applying the same thermal discharge limit (*i.e.*, 0.14 tBTUs) was warranted for the winter months. The hydrothermal modeling results indicated that in the warmest winters, water temperatures were likely to exceed

²⁰ It should be understood that the Region’s analysis did not *begin with* selecting the 10 percent value. Rather, this was the percentage that *resulted from* the largest plume that would avoid the key nursery and spawning areas known to exist near the point of BPS’s thermal discharge.

²¹ The Region’s approach to setting thermal discharge limits to protect winter flounder nursery habitat is also supported by research by Collie and Delong (2001 and 2002), indicating that there appeared to be a “recruitment bottleneck” in Mt. Hope Bay restricting juvenile winter flounder survival, and that the life stage at which this bottleneck occurred was unique to Mt. Hope Bay as compared to other portions of Narragansett Bay. They also found that juvenile winter flounder mortality was positively correlated with higher water temperatures and plant coolant flow. *See* Ex. 4 at 6-57; Ex. 2 at Ch. III: 26, 43-44. *See also* Reg. 1 Resp., Table 1 at 22-23.

5°C in the spawning areas even without any thermal discharge from BPS. *See* Ex. 4 at 6-41; Ex. 2 at Ch. III: 33-34. Thus, in the warmest winters, Mt. Hope Bay would likely be “less than optimal” for winter flounder egg viability and larval development. Ex. 2 at III-33.²² While this might suggest that no thermal discharge should be permitted at all, the Region also recognized that due to variability in natural temperature, these background conditions would not occur in every year. *Id.*²³ At the same time, the Region recognized that a greater thermal discharge would generally result in a greater area and frequency of impact. *Id.*

Further support for keeping temperatures as low as possible came from research indicating that warmer water temperatures, including those above 5°C, promoted predation of winter flounder eggs and larvae by sand shrimp. *See* Ex. 4 at Ch. 6: 35-38, 51-52, 57; Ex. 2 at Ch. III: 33-34, 10, 13, 18-19. In addition, the Region concluded that reduced thermal discharges in the winter would help reduce problems associated with warm water, such as interference with the normal winter-spring phytoplankton bloom, promotion of out-of-season ctenophore blooms, and prevention of normal migration of menhaden, bluefish and striped bass. Ex. 4 at Ch. 6: 45, 57; Ex. 2 at Ch. III: 35, 38-39, 62. Thus, the Region determined that the same 0.14 tBTUs monthly value should be used for the winter to protect winter flounder spawning and minimize other adverse thermal effects. Ex. 4 at 6-57; Ex. 2 at Ch. III: 33-34.

The Region calculated that a monthly thermal discharge limit of 0.14 tBTUs for all 12 months in the year translated to an annual thermal discharge limit of 1.7 tBTUs/year. Ex. 4 at 6-

²² The Region pointed out that research indicated that colder water generally correlated with greater winter flounder abundance. Ex. 4 at 6-41; Ex. 2 at III-34. *See also* Ex. 4 at Ch. 6: 35-36; Ex. 2 at Ch. III: 26-27.

²³ In addition, the Region noted that while the 24-hour averaging convention used in the modeling would tend to underestimate certain biological effects, such as avoidance, it might overestimate impacts such as egg hatching. Ex. 4 at 6-38.

57. This limit was included in the permit. The Region explained that this limit would not assure *no* adverse impacts from thermal discharge but concluded it would be sufficient (*i.e.*, stringent enough) to reasonably assure the protection and propagation of the BIP in Mt. Hope Bay. *Id.*; Ex. 2 at Ch. III: 33-35, 30, 7, 71.

3. Region 1 Reasonably Selected Critical Temperature Values for Its Area Impacted Analysis In Order to Set Thermal Discharge Limits

Petitioner disputes the 24°C summer critical temperature chosen by Region 1, but fails to demonstrate any error in the Region's analysis. Petitioner and Region 1 examined much of the same scientific literature, though Petitioner disregarded certain information regarding sublethal effects. *See, e.g.*, Ex. 2 at Ch. III: 26-27, 10; Ex. 4 at Ch. 6: 34-35. In examining thermal avoidance by fish, Region 1 explained that the response of fish to temperature is not exactly the same for all individual members of a species: some are affected at lower temperatures than others, but as temperatures rise eventually a threshold is reached at which all will be affected. Ex. 2 at III-11. The literature on dose-response for thermal exposure indicates that once the threshold temperature is reached, the avoidance response will rapidly increase from 50 to 100 percent. Therefore, it was appropriate to use lower reported values from the literature reflecting the onset of impacts. *Id.* In selecting critical temperature thresholds for the permit analysis, Region 1 also considered the temperatures at which adverse sublethal effects other than avoidance would occur (e.g., cessation of feeding by winter flounder). Given the dire condition of fish stocks in Mt. Hope Bay and the uncertainty of predicting exact levels of habitat avoidance and other adverse sublethal effects that may occur due to temperature, Region 1 concluded that a conservative approach to selecting temperature thresholds was appropriate to assure protection

and propagation of the BIP. Ex. 2 at Ch. III: 10-11, 28-29; Ex. 4 at Ch. 6: 34-38, 54-56.²⁴

Petitioner describes Region 1's selection of 24°C as "patently arbitrary," Pet. Br. at 13, because, it says, it is based solely on two papers, Duffy and Luders (1978) and Casterlin and Reynolds (1982), and certain RI DEM data, and because none of this information supports the value. Neither assertion is correct.

First, Casterlin and Reynolds (1982) found that winter flounder demonstrated a preference for temperatures below 20°C, and found that thermal avoidance begins "at or below 27°C".²⁵ Ex. 4 at 6-34; Ex. 2 at Ch. III: 11, 29. Second, the Duffy and Luders paper reflects both field data indicating that the great majority of winter flounder caught in Mt. Hope Bay were found in water well below 24°C, Ex. 66 at B-1; Ex. 2 at Ch. III: 11, 29, and data from laboratory studies. The laboratory studies indicated that avoidance occurred at 24.5, 24.9, and 24.5°C, when winter flounder had been acclimated to temperatures of 14, 20, and 22°C, respectively, and that avoidance occurred at 27.5°C at an acclimation temperature of 24°C.²⁶ The literature review also presents data showing that winter flounder *mortality* can occur at temperatures as low as 25°C.

²⁴ In addition, Region 1 pointed out that avoidance effects could be *underestimated* using the model because although avoidance may be triggered by exposures of less than 24 hours, the hydrothermal model presents water temperature on a 24-hour mean basis so that temperatures during some parts of the day would actually *exceed* the target values displayed by the model. Ex. 4 at 6-38.

²⁵ This indicates that avoidance was observed across a range of temperatures, including those *below* 27°C, such as 24 °C. Indeed, the authors plainly conclude that sublethal effects, such as inhibition of feeding, which were a factor in Region 1's selection of threshold temperature, occur at temperatures as low as 20°C. Region 1 has correctly interpreted the relative frequency distribution in the study as indicating a preference for temperatures below 20°C. Indeed, the authors themselves state that study individuals showed a preferred temperature of approximately 18.5°C. Pet. Ex. C, pp. 178-79. Petitioner's claim, Pet. Br. at n. 31, that Region 1's citation to this fact represents "*post hoc*" reasoning is incorrect. The Region properly referred to this article, which was included in its Administrative Record (AR 385), in the decision document for the Draft Permit, Ex. 4 at 6-34, and in the Responses to Comments for the final permit, Ex. 2 at Ch. III: 11, 28-29, as supporting Region 1's selection of threshold temperatures based on avoidance and other sublethal effects.

²⁶ See also Ex. 4, App. A, p. 21 (MA DEP interpretation of the Duffy and Luders report consistent with Region 1); AR 3339 (Bevelhimer & Coutant (2002)) (same).

Ex. 66 at D-30. These studies obviously support selection of a 24°C critical temperature given that the Region is trying to assure the protection and propagation of the BIP, which in this case involves *preventing* juvenile winter flounder avoidance of important nursery habitat.

Third, data submitted by RI DEM indicated that juvenile winter flounder abundance declines dramatically in Mt. Hope Bay between 24 and 25° C. These field data tended to support the 24°C avoidance temperature value and to confirm that once a temperature threshold is reached the biological response of winter flounder is often dramatic. *See* Ex. 4 at 6-34 and App. A, p. 21; Ex. 34; Ex. 37.²⁷ Fourth, the Region cited to an analysis by the MA DEP (2002), Ex. III-28; Ex. 4 at 6-37, which reported statements by winter flounder expert Dr. Grace Klein-McPhee that sublethal effects for juvenile winter flounder begin at 20°C, and feeding inhibition and avoidance are evident at 24°C. The State concluded from this that 24°C could be *too high* for use as a critical temperature. *See* Ex. 4, App. A, p. 21.²⁸ All of this information supports the Region's selected critical temperature threshold of 24°C.

As Region 1 explained, this was not a "no effects" level, but rather was a reasonable level at which to set limits to minimize habitat avoidance by juvenile winter flounder in Mt. Hope Bay.

²⁷ Petitioner questions Region 1's use of graphs submitted by RI DEM comparing juvenile winter flounder abundance to temperature. Pet. Brief at 13. Yet, these data *do* corroborate the Region's choice of critical temperature. They indicate that avoidance may occur across a range of temperatures, but in the vast majority of field stations significant avoidance occurred *below* 25°C. *See* Ex. 4 at 6-34, App. A, p. 21; Ex. 2 at III-27. Petitioner's theory that the absence of winter flounder is due to natural "seasonal migration" rather than temperature avoidance does not apply to juvenile winter flounder, *which do not migrate*. Moreover, even for adult fish, Petitioner offers no evidence to support its theory, which even if true would still indicate that artificially elevated temperatures from BPS' thermal discharge could cause premature migration. *See* Reg. 1 Resp., Table 1 at 21.

²⁸ Region 1 recognizes that in a 1997 letter, Dr. Klein-McPhee recommended that 25°C was a temperature that "should not be exceeded" for juvenile winter flounder. Pet. Br., Ex. C (AR 126). The letter also states that "sublethal effects begin to show at 20°C and feeding inhibition and avoidance are evident at 24°-27°C." Selecting a critical temperature of 24°C is *consistent* with these points. *See also* Stoner (2001) (AR 646) (*cited* in Ex. 4 (List of Literature Cited) (also supporting critical summer temperature of 24°C).

See Ex. 2 at Ch. III: 11, 28-29.²⁹ Petitioner claims that selecting a critical temperature of 25°C would have allowed a much larger thermal discharge, but the Region did not select the critical temperature based on whether it would allow more or less thermal discharge. The Region selected the critical temperature to help derive a thermal discharge limit that would reasonably assure the protection and propagation of the BIP as required by CWA § 316(a).³⁰

The Region selected a critical winter temperature of 5°C. This value was based principally on improved winter flounder egg viability. Ex. 4 at 6-38. Research indicated optimum (100%) winter flounder egg viability at 3°C, 83.5% viability at 5°C, and only 50% viability at 10°C. The Region concluded that temperatures yielding only 50% viability were likely to interfere with recovery of the winter flounder population. The Region also concluded that the 5°C temperature was reasonable because, among other things, the long-term significance of a difference in egg viability between 83.5% and 100% was unclear. Ex. 4 at 6-38.

4. Region 1's Thermal Discharge Limits Are Not Based on the MA DEP's Mixing Zone Analysis

Region 1 previously showed that Petitioner's contention that the permit's thermal discharge limits are based on MA DEP's mixing zone is false. *See* Reg. 1 Resp. at 73-75.³¹

²⁹ The Region explained that it chose not to select a critical temperature based directly on other sublethal effects temperatures, which are even lower than avoidance temperatures, because the ecological impact of these effects was less clear and research in this realm was less robust. Instead, the Region focused on avoidance temperatures because these levels were demonstrably linked to an effect – avoidance of key habitat areas – clearly at odds with protection and propagation of that area's BIP. Ex. 2 at III-11; Ex. 4 at 6-37.

³⁰ The Region also notes that if 25°C were set as the critical temperature in the bottom waters, then the pelagic layers of the water column, which are warmer, would necessarily exceed the critical summer temperature of 25°C for striped bass avoidance in the pelagic layer in an even wider area. *See* Ex. 4 at Ch. 6: 38, 40.

³¹ It should also be noted that the mixing zone analysis clearly yielded discharge limits distinct from Region 1's § 316(a) limits. *See* Ex. 4 at Ch. 6, Ch. 8, App. A. *See also* Supplemental Amicus Brief of the MA DEP (June 24, 2004), at 13-15.

II. The EAB Should Uphold the Cooling Water Intake Limits in BPS's NPDES Permit

Petitioner makes essentially three arguments in challenging the permit's CWA § 316(b) limits: (1) that Region 1 erred as a matter of law in determining the limits on a Best Professional Judgment ("BPJ") basis; (2) that the record does not support the Region's determination that converting to closed-cycle cooling constitutes BTA for its facility; and (3) that, in any case, the Region abused its discretion in issuing the final permit approximately eleven months before the current expected effective date of September 7, 2004, for the Agency's new Phase II CWA § 316(b) regulations addressing existing power plants like BPS. None of these claims has merit.

A. Region 1's Decision to Develop the Permit's Cooling Water Intake Limits on a BPJ Basis is Consistent with Applicable Law

Petitioner's assertion that Region 1 was not authorized to develop § 316(b) limitations for its facility on a BPJ basis is unfounded. The Agency has imposed such requirements on a case-by-case, BPJ basis for decades. Reg. 1 Resp. at 19-21. At the time Region 1 issued the BPS permit, only one national categorical CWA § 316(b) regulation was in effect, and that rule – applicable only to new facilities – did not apply to BPS. Therefore, Region 1's use of BPJ in the absence of an applicable national categorical rule was required by law.³²

The pendency of the Phase II CWA § 316(b) rulemaking does not alter the Region's authority to set the limits based on BPJ. As the Board observed in refusing to consider proposed effluent limitations guidelines in evaluating a contested NPDES permit, "the Region's obligation, as the permit issuer, is to apply the CWA statute and implementing regulations in effect at the

³² See *Riverkeeper, et al. v. EPA*, 358 F.3d 174, 181-82 (2nd Cir. 2004) (in upholding much of EPA's Phase I § 316(b) regulations for new facilities, court noted that facilities not covered by Phase I "will continue to be subject to regulation on the same case-by-case, 'best professional judgment' basis that has governed in the rule's absence").

time the final permit decision is made, not as the statute or regulations may exist at some point in the future.” *Phelps Dodge*, 10 E.A.D. at 478 n.10 (citing 40 C.F.R. 122.43(a) and (b)(1)).³³

Petitioner cannot show any error of law justifying permit remand.

B. Region 1's BPJ Determination of BTA for Petitioner's Facility is Fully Supported by the Record

Petitioner asserts that the Board should remand the permit because BPS is being subjected to unlawful, disparate treatment. *See* Pet. Br. at 23-25. This argument misapprehends the nature of BPJ permitting. *See* Reg. 1 Resp. at 30-31, 84-85. When developing BPJ limits, the permitting authority applies the relevant legal standard based on the facts specific to the permittee.³⁴ The very nature of BPJ decision-making means that facilities will invariably be treated as the facts in their cases justify. *See Hudson Riverkeeper Fund, Inc. v. Orange and Rockland Utilities, Inc.*, 835 F. Supp. 160, 166 (S.D.N.Y. 1993) (explaining that under case-by-case BTA analysis under CWA § 316(b), facts may justify “markedly different” requirements even for plants existing within view of one another on the same river). This is not unlawful treatment. The only issue is whether the record supports the Region’s BPJ judgment for BPS. As discussed below and in Region 1’s Response to the Petition for Review, it does.

³³ In support, the EAB also cited *In re Homestake Mining Co.*, 2 E.A.D. 195, 199-200 & n. 8 (CJO 1986). In *Homestake*, the Chief Judicial Officer held that “permit terms and conditions cannot be based on proposed rules since they are tentative and may change before being promulgated in final form.” Petitioner’s argument that Region 1’s decision in 2003 “with regard to BTA is an outright violation of law” due to the new Phase II Regulations, Pet. Br. at 23, is clearly incorrect. The new regulations cannot retroactively render unlawful the earlier lawful decision.

³⁴ *See, e.g., Texas Oil & Gas Ass’n v. EPA*, 161 F.3d 923, 929 (5th Cir. 1998) (in BPJ permits, “[i]ndividual judgments thus take the place of uniform national guidelines, but the technology-based standard remains the same.”); *NRDC v. EPA*, 859 F.2d 156, 199 (D.C. Cir. 1988) (“ . . . BPJ limitations are as correct and as statutorily supported as permit limits based upon an effluent limitations guideline.”).

1. **Region 1's Biological Analysis Was Reasonable, Entitled to Deference, and Should be Upheld by the Board**

The record supports Region 1's BPJ determination that closed-cycle cooling constitutes the BTA at BPS. Consistent with past approaches, Region 1 defined "minimizing" to mean reduce as much as possible, Reg. 1 Resp. at 21-22, and "adverse environmental impacts" to mean any damage from impingement and entrainment. Ex. 47 at 15. First, contrary to Petitioner's suggestions, Region 1 need not establish population level effects when setting § 316(b) limits. As the Second Circuit has observed, "... EPA's focus on the number of organisms killed or injured by cooling water intake structures is eminently reasonable." *Riverkeeper*, 358 F.3d at 196. Second, when considering available technology, the Region looked to the best performing technology for achieving reductions in adverse environmental impacts and considered its economic and technological practicability. Finally, when considering costs, the Region appropriately applied the wholly disproportionate cost test. Region 1 properly considered all these factors and set reasonable § 316(b) permit limits on a BPJ basis.

a. **The Region's Determination Properly Was Not Based Solely on Species Population Level Effects**

Petitioner suggests that Region 1's CWA § 316(b) permit limits hinge entirely on the estimated effect of the BPS intake on Mt. Hope Bay's winter flounder population. Pet. Br. at 26. This is incorrect. Region 1 based its assessment on *absolute levels* of entrainment and impingement by BPS of numerous fish and non-fish species, *as well as* the significance of these losses to the sensitive estuarine ecosystem of Mt. Hope Bay. Ex. 4 at Ch. 7: 105-110, 112-16.³⁵

³⁵ See also EPA's 1977 Draft 316(b) Guidance, Ex. 47 at 15 (indicating that the percentages of species populations entrained or impinged, harm to the larger biotic community, and the sensitivity of the water body affected, can also be considered when assessing the magnitude of adverse impacts. It also states that, "[a]n open

Data showed that BPS's withdrawal of one billion gallons of water per day from Mt. Hope Bay was killing trillions of organisms, including billions of fish eggs, fish larvae and juvenile and adult fish.³⁶ See Ex. 2 at IV-21; Ex. 4 at 7-125. The Region concluded that intake flow limits based on a conversion to closed-cycle cooling would reflect the *best* technology available at BPS because these limits would achieve the greatest reductions (i.e., minimization) in entrainment and impingement from among the options considered, and because such a cooling system conversion had been completed at other power plants and was economically and technologically practicable at BPS.³⁷ See Reg. 1 Resp. at 83-84.

While Region 1's BTA determination is legally sound absent a finding of population-level adverse effects from the BPS cooling water intakes, Region 1 also concluded that BPS was taking a significant percentage of Mt. Hope Bay's winter flounder population, and was likely taking a significant percentage of the populations of other fish species as well. See Ex. 4 at Ch. 7: 122-23. Moreover, these substantial losses were occurring in an ecological community characterized by collapsed fish populations which had shown no sign of recovery despite implementation of stringent fishing restrictions and costly municipal water pollution controls. See, e.g., Ex. 4 at 7-167. Thus, the Region's assessment of the likely population level effects from BPS's intakes only strengthened the Region's conclusion that BPS's intake flow was

system large volume intake in an area of high biological value does not represent . . . [BTA] to minimize adverse environmental impact and will generally result in disapproval."). Ex. 47 at 11-12. See also Ex. 4 at Ch. 7: 10-11.

³⁶ Current BPS operations have also resulted in the foregone production of more than 82 million pounds of finfish biomass. See Ex. 4 at Ch. 7: 123-25; Ex. 2 at Ch. IV: 47, 66, and at Vol. II: App. X at 1-2; Reg. 1 Resp., Table 1 at 45.

³⁷ See Ex. 4 at Ch. 7: 128 ("... from the perspective of minimizing losses of absolute numbers of organisms and percentage reductions in populations of particular species of fish, the Closed-Cycle Entire Station option is the preferred alternative."), 167-68, 171-73; Ex. 2 at Ch. IV: 10-11, 21-22, 41-42.

causing severe adverse environmental impacts warranting minimization. *See* Reg. 1 Resp. at 49-51, 121-22; Ex. 4 at Ch. 7: 102-26.

b. Region 1 Reasonably Considered Population Level Effects of the BPS Intake on Winter Flounder and Other Fish Species in Setting Permit Limits under CWA § 316(b)

The Region reasonably considered population level effects of the BPS intakes with respect to general fish abundance and the populations of particular species.³⁸ Region 1 concluded that BPS entrainment and impingement had contributed to the collapse of fish populations in Mt. Hope Bay and that major reductions in BPS intake-induced mortality would likely be needed to allow a recovery. *See* Ex. 4 at Ch. 7: 129, 166-68, 170, 172. Region 1 analyzed population-level effects for winter flounder because it has great commercial, recreational and ecological importance within the biological community of Mt. Hope Bay and was the only species for which sufficient data existed to do so. The Region derived a population estimate for Mt. Hope Bay winter flounder of approximately 7,500 adult fish, and calculated that BPS's intakes were killing approximately 80% of the population. Reg. 1 Resp. at 124-27.

Petitioner argues that these estimates are flawed based on three incorrect and unsubstantiated claims.³⁹ First, Petitioner again argues that Region 1 did not properly consider

³⁸ Petitioner's claim that Region 1 only considered winter flounder populations is incorrect. The Region also considered overall fish abundance and possible population-level effects to other species. *See* Ex. 2 at IV-66; Ex. 4 at 7-167. While available data indicated that impingement and entrainment losses associated with Petitioner's proposed permit limits would remove significant percentages of Mt. Hope Bay's windowpane, tautog and hogchoker populations, Ex. 4 at Ch. 7: 125-26, the limitations of the data precluded developing specific estimates of the percentages of species other than winter flounder being lost to the intake. *See* Ex. 2 at Ch. IV: 66, 7, 46, 71. Petitioner neither provided such estimates nor indicated that the data for developing them exists.

³⁹ Region 1, the States and Petitioner all agree that overall fish abundance in Mt. Hope Bay, and the winter flounder population in particular, is severely depleted. *See, e.g.*, Ex. 2 at Ch. VII: 23-24; Ex. 4 at Ch. 6: 28-29. The abundance data show this beyond any legitimate dispute. Reg. 1 Resp. at 115-20, 135-36. The data also show that conditions are worse in Mt. Hope Bay than in Narragansett Bay. *Id.* at 120, 47-49. While acknowledging the unhealthy state of winter flounder and other populations, Petitioner nonetheless quarrels with the Region's winter

“all the data.” The Region has already refuted Petitioner’s assertions, explaining that the Region *considered* all the data and then made scientifically sound decisions regarding the manner and extent to which the various data sets should be used. Reg. 1 Resp. at 115-20, 40-45.

Second, Petitioner asserts that Region 1’s Mt. Hope Bay winter flounder population estimate of 7,500 fish cannot be correct because that number of fish would be insufficient to produce the quantity of eggs and larvae lost to entrainment at BPS’ intake. Petitioner claims that to make up the difference, either the population must be larger or larvae must be entering from Narragansett Bay. Petitioner also argues that if the latter is true, then the appropriate reference point for assessing population losses should be *all* of Narragansett Bay. Petitioner has never substantiated its claim, however, that more winter flounder are needed to produce the number of eggs and larvae lost to the BPS intakes. *See* Ex. 4 at 7-120. Petitioner’s comments on the permit claimed that 40,000 adult winter flounder would be needed to produce the number of larvae lost to the BPS intakes, but did not substantiate this claim, either. Even so, this figure is substantially closer to the Region’s estimate of 7,500 than to Petitioner’s claim of 300,000 to 450,000.⁴⁰

Furthermore, Region 1 has also explained in detail the other reasons that it concluded that the Mt. Hope Bay winter flounder population was not significantly larger than its estimate of 7,500. *See* Reg. 1 Resp. at 124-27.⁴¹ Finally, Region 1 explained that the net direction of larval flux

flounder population estimate and the resulting calculation of the percentage of the population taken by BPS.

⁴⁰ Even assuming Petitioner’s claim of 40,000 winter flounder were true, and assuming a 33% flow reduction from Petitioner’s proposed permit limits, the BPS intakes would still remove 30% of the local winter flounder population. This level of impact does not reflect BTA for minimizing adverse environmental impacts, and would likely preclude rebuilding of fish stocks. Ex. 4 at Ch. 7: 120-21; *see also* Ex. 2 at IV-48.

⁴¹ The Region presented numerous reasons that Petitioner’s winter flounder population estimate is unreasonable. Ex. 2: Ch. IV: 47-50 (discussing estimates based on RI DEM data and impingement data), 66-68 (discussing Draft Gibson 2003 Report), and Ch. VII: 24, 39-41; Ex. 4 at Ch. 7: 121-122 (discussing Empirical Transport Model). Furthermore, based on its estimate, Petitioner argues that BPS’s intakes are removing only 4-

between Mt. Hope Bay and Narragansett Bay was uncertain, but explained why it doubted that there was a significant net flux into Mt. Hope Bay.⁴² Ex. 4 at Ch. 7: 120, 122; Ex. 2 at IV-48.

Petitioner also asserts that Region 1's population estimate is flawed because the Region overstated the efficiency of the trawls used to catch fish for abundance surveys, which, in turn, led the Region erroneously to conclude that low catch data represented low population levels. Petitioner's critique must fail. The Region's conclusion that trawl efficiencies for the reports it relied upon were 50% to 75% was based on information provided by the researchers conducting the surveys.⁴³ See Ex. 2 at Ch. IV: 49-50. Petitioner's statement that Region 1 "acknowledged [that a 2% trawl efficiency] would support the validity of USGenNE's population estimate," is misleading. Pet. Br. at 29. Region 1 merely pointed out that Petitioner's population estimate could be valid only if a 2% efficiency was assumed, and then explained that such an assumption was entirely unreasonable. See Ex. 2 at IV-49.^{44, 45} The Region's trawl efficiency value, in

15% of the local population. Pet. Br. at 30. Region 1 finds these figures inaccurate, but even if they were true, Region 1 does not agree that losing 4 to 15 percent of Mt. Hope Bay's winter flounder stocks to BPS's cooling system would reflect the BTA at BPS. See Reg. 1 Resp. at 139-41.

⁴² Even if there were a net influx of larvae, there is no reason to think *all* of Narragansett Bay would be contributing; a contribution from a small portion of Narragansett Bay near to Mt. Hope Bay would be more likely.

⁴³ MRI, one of Petitioner's own consultants, informed the Region that its trawl efficiency was 50%. Ex. 2 at IV-49. Petitioner's claim, made for the first time on appeal, that this figure actually applied to a different trawl is entirely unsubstantiated. Petitioner's assertion that the "reports relied upon by the Region assume a much lower number [than 50%]" (Pet. Br. at 29, n.61) is incorrect and misleading.

⁴⁴ To support its case, Petitioner cites Ex. 35 (Region 1's notes from a meeting with Petitioner and the states). This document merely reflects that one of Petitioner's consultants – who admitted he was not a winter flounder expert – stated that he assumed a 2% efficiency value in his population estimate but did not substantiate the figure. When Mark Gibson of RI DEM indicated that the value was "impossible (low)," another of Petitioner's consultants stated that perhaps the value should be between 10 and 15%. Neither of Petitioner's consultants provided support for their conflicting claims.

⁴⁵ Petitioner's argument that trawl efficiencies are 2% defies logic and contradicts its prior, vigorous arguments that overfishing by commercial fishermen (who use trawls) is responsible for the decline and lack of recovery of Mt. Hope Bay fish populations. See, e.g., Ex. 4 at 6-47; Ex. 2 at Ch. III: 43-44. If trawl efficiencies for winter flounder were only 2%, commercial fishermen would not have had a significant effect on winter flounder

contrast, is solidly substantiated.⁴⁶

Petitioner also disagrees that Mt. Hope Bay is the proper reference point for assessing winter flounder population effects because it questions whether winter flounder truly show natal fidelity to their spawning grounds, and argues that even if they do, other species do not. The Region documented, however, that not only do winter flounder show natal fidelity to Mt. Hope Bay spawning grounds, but other species, such as weakfish and alewife, do as well. Ex. 4 at Ch. 7: 116-117, 120, 113; Ex. 2 at IV-64. In any case, the Region's focus on minimizing absolute levels of entrainment and impingement, and on preserving fish populations *in Mt. Hope Bay*, the water body affected by BPS's intakes, is reasonable and consistent with the CWA. Ex. 4 at 7-120; Ex. 2 at Ch. IV: 64-65.⁴⁷

Finally, Petitioner again argues that the 2003 Draft Report by Gibson confirms its population estimate for winter flounder and its assertion that BPS' thermal discharge and cooling

stocks and the strict commercial and recreational fishing restrictions imposed in Mt. Hope Bay would be unnecessary.

⁴⁶ Petitioner now submits for the first time an analysis dated *June 1, 2004*, Pet. Br. Ex. L, based on a single sheet of RI DEM data that it claims demonstrates that the efficiency of the RI DFW trawl really is only 2%. This issue is outside the scope of the Petition for Review and the Region has never seen any of this material before. Region 1 therefore opposes Petitioner's request to supplement the administrative record with this material, Pet. Br. at 28 n. 60, and moves that it and arguments concerning it be stricken. *See* Region 1's Second Motion to Strike. In addition, based on the quick review the Region was able to undertake upon first seeing this data, Petitioner's analysis appears to be invalid. Petitioner appears to have used catch data from a fisheries management area covering all of Rhode Island waters and reaching into federal waters to produce a highly inflated estimate of catch data for Narragansett Bay alone. Petitioner also incorrectly assumed that fish were equally distributed in all areas of the bay, including areas where one would not expect to catch *any* fish. This assumption produces an artificially low average catch efficiency. Only by assuming that more fish are present than actually are, and using average catch efficiency figures, is Petitioner able to produce its 2% figure.

⁴⁷ *See also* Ex. 47 (EPA May 1977 Draft § 316(b) Guidance), at 11-12 (when determining impacts to a particular species, EPA should look at the value of the "source water body" for ecological functions such as spawning, nursery grounds, feeding and migration), 15 (magnitude of AEI should be estimated in terms of, among other things, its impact on the "balanced population of shellfish and fish in and on the body of water from which the cooling water is withdrawn"); Ex. 4 at Ch. 7: 9-15; Ex. 2 at Ch. IV: 10-11.

water intake need not be restricted to give the winter flounder population a chance to recover.

Region 1 has already refuted these arguments. *See* Reg. 1 Resp. at 118-20, 126-27, 131-32.⁴⁸

2. Region 1's Economic Evaluation in Support of the Permit's CWA § 316(b) Limits Was Reasonable and Should Be Upheld

Region 1's consideration of economic issues in support of the permit's cooling water intake limits was reasonable and fully consistent with applicable law and agency guidance. It was also more than adequately explained in the record for the permit. Petitioner and UWAG repeat many arguments to which the Region has already responded. *See* Reg. 1 Resp. at 22-25, 51-55, 98-105, 105-11, 141-153, and Tables 2 and 3; Ex. 2, Ch. IV (and supporting technical memoranda). The Region explained that in applying CWA § 316(b) on a BPJ basis, cost may be considered in two respects. First, the Region evaluated the *practicability* (i.e., feasibility) of the costs in question. *See* Reg. 1 Resp. at 23-24; Ex. 4 at Ch. 7: 15-16. *Cf. Riverkeeper*, 358 F.3d at 198, 195, 200 (practicability was the only economic consideration required by the CWA for the Phase I Rule). Region 1 concluded that the cost of compliance with the permit's § 316(b) limits would be practicable for BPS and no significant comments questioning this conclusion were submitted during permit development. *See* Reg. 1 Resp. at 33, 84, 145; Ex. 2: Ch. IV: 13-14.⁴⁹ Second, in considering costs, the Region applied the wholly disproportionate cost test, as the

⁴⁸ Petitioner submits only two from a series of graphs from the May 2003 Draft Gibson Report in a misleading effort to suggest that Mt. Hope Bay winter flounder will recover without any added controls on BPS' entrainment and impingement. Pet. Br. at 44 n. 100, Ex. R. Region 1 has already addressed this misrepresentation of these figures, explaining that they indicate that recovery would be *uncertain* after ten years even if the unrealistic assumption of zero fishing mortality held true. Reg. 1 Resp. at 131-32, 119, 44-45 and Table 1 at 57-58.

⁴⁹ UWAG now mounts the new argument that the costs of compliance with the permit's § 316(b) limits are impracticable. *See* UWAG Br. at 29. This argument is waived as it was not presented in comments on the draft permit, nor did Petitioner assert this in its Petition for Review. It is also incorrect as UWAG has not demonstrated compliance with the permit's § 316(b) limits to be economically impracticable.

Agency has done for decades. *See* Reg. 1 Resp. at 24-25. After a broad evaluation of the benefits of the reduced entrainment and impingement that would result from compliance with the permit's § 316(b) limits, the Region reasonably made the policy judgment that the cost of compliance was not wholly disproportionate to its benefits, even if Petitioner's cost estimates were used. *See* Ex. 2: Ch. IV: 36-45.

3. Region 1 Reasonably Considered the Benefits of the Permit's CWA § 316(b) Limits

Congress, the Courts and EPA guidance have recognized that not all environmental benefits can be monetized.⁵⁰ *See* Reg. 1 Resp. at 24-25, 105-07; Ex. 2 at Ch. IV: 21-22. Accordingly, Region 1 considered the § 316(b) permit limits' benefits from several perspectives: qualitatively, quantitatively but non-monetized, and monetized. *See* Ex. 2 at Ch. IV: 18-31.⁵¹

The Region conducted a detailed evaluation of the benefits of the permit's limits from a qualitative perspective and found that the benefits of achieving the required 96 percent reduction in the entrainment and impingement of the billions of fish eggs, fish larvae, and juvenile and

⁵⁰ *See, e.g., Association of Pacific Fisheries v. EPA*, 615 F.2d 794, 809 (9th Cir. 1980); *Appalachian Power Company v. Train*, 545 F.2d 1351, 1361 (4th Cir. 1977); *American Iron and Steel Institute v. E.P.A.*, 526 F.2d 1027, 1075 (3d Cir. 1975) (citing legislative history of 1972 CWA Amendments); *Appalachian Power Company v. Train*, 545 F.2d 1351, 1361 (4th Cir. 1977); Cong. Res. Serv., "A Legislative History of the Water Pollution Control Act Amendments of 1972, Vol.2", 93 Cong., 1st Session, pp. 1465-1466. *See also State of Ohio v. U.S. Dept. of Interior*, 880 F.2d 432, 457 (D.C. Cir. 1989) (in review of Department of Interior natural resource damages regulations, court states that Congress "recognizes that natural resources have value that is not readily measured by traditional means").

⁵¹ In *Decision of the General Counsel No. 63 (In re Central Hudson Gas & Electric Corp., et al.)*, p. 381 (July 29, 1977), the General Counsel opinion stated that "EPA must . . . demonstrate that the . . . cost of modifications to cooling water intake structures is not wholly out of proportion to the magnitude of the estimated environmental gains (including attainment of the objectives of the Act and § 316(b)) to be derived from the modifications." *See also* Reg. 1 Resp. at 24-25. This indicates that environmental benefits should be considered broadly, including the extent to which the permit's intake limits would achieve statutory objectives, such as minimizing adverse environmental impacts, restoring and maintaining the biological integrity of the Nation's waters, and meeting state water quality standards.

adult fish taken by the BPS intakes would be very substantial. *See* Reg. 1 Resp. at 106.⁵² EPA's Economic Analysis Guidelines (2000), Ex. 51 (AR 3311) (the "Economic Guidelines"),⁵³ fully support evaluating environmental benefits from a qualitative standpoint.⁵⁴ *See* Ex. 2 at Ch. IV: 18 n. 4, 21 nn. 6, 7. Petitioner provided no significant comments addressing this analysis. *See* Reg. 1 Resp. at 107; Ex. 2 at IV-22. Region 1 also assessed benefits from a quantitative, non-monetized standpoint by assessing reductions in entrainment and impingement from different options. The limits chosen by Region 1 achieved far greater reductions (96%) than Petitioner's proposed limits (33%). *See* n. 37, *supra*; Reg. 1 Resp. at 106-07; Ex. 2 at Ch. IV: 21-22, 41-42; Ex. 4 at Ch. 7: 126-30.

Finally, the Region evaluated benefits from a monetized standpoint. In its prior brief to this Board, the Region fully addressed arguments concerning this analysis raised by Petitioner and UWAG, including the fact that this effort went beyond any legal requirement. Reg. 1 Resp. at 106. The Region found no other example of EPA preparing a monetized benefits analysis in the context of setting specific CWA § 316(b) permit limits, and neither Petitioner nor UWAG has provided one. *See* Reg. 1 Resp. at 106. As a result, an infirmity in this analysis, if any,

⁵² The many factors contributing to this conclusion are specified in the permit record. Ex. 2 at Ch. IV: 21, 23, 41-42; Ex. 4 at Ch. 7: 130-34, 172.

⁵³ For reference purposes, Region 1 provided the cover page to the Economic Analysis Guidelines as Ex. 51 with its Response to the Petition for Review. The Region did not provide a complete copy because it is a large publication and should be readily available. A full copy can be provided upon request, or it is available electronically at the following URL: [http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html/\\$file/Guidelines.pdf](http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/Guidelines.html/$file/Guidelines.pdf).

⁵⁴ For example, the Economic Guidelines, at 176, state that "[e]conomic analyses should present and highlight non-monetized effects when these are important for policy decisions." *See also id.* at 178 ("Determining which regulatory options are best . . . often is made difficult by uncertainties in data and by the presence of benefits and costs that can be quantified but not monetized or that can only be qualitatively assessed. Thus, even if the criterion of economic efficiency were the sole guide to policy decisions, social benefit and costs estimates alone would not be sufficient to define the best policies.")

would constitute harmless error.

This analyses confirmed that substantial non-use values likely exist for the environmental improvements to be provided by the permit. This analysis was only a *part*, along with the qualitative considerations discussed above, of the Region's overall determination under the wholly disproportionate cost test. *See* Ex. 2 at Ch. IV: 26-29, 41-44, and at Vol. II at App. E and H. The Region's complete analysis is fully explained in the record for the permit. *Id.*; *see also* Reg. 1 Resp. at 52-55.

At the same time, the Region concluded that Petitioner's approach to benefits assessment was unreasonable. Petitioner did not assess non-use values and effectively considered them not to exist. *See* Ex. 2 at Ch. IV: 43, 27 n. 13. Petitioner's approach compared complete compliance costs with incomplete benefits. Petitioner's approach would lead to the conclusion that BPS could eliminate more than three times the entire recreational and commercial winter flounder landings for all of Rhode Island and it would still not be worth making improvements to modernize the power plant's cooling system to minimize adverse environmental impacts. *See* Ex. 2 at Ch. IV: 43. Region 1 concluded that this approach was deficient and the Region was not required to adopt it.

UWAG complains that Region 1 did not explain how it drew the line in applying the wholly disproportionate cost test.⁵⁵ Yet, the Region provided a detailed explanation of the basis of its conclusion that costs for installing BTA were, in this case, neither impracticable nor wholly

⁵⁵ This argument was not presented in the Petition for Review and should be considered waived. Moreover, UWAG's suggestion that Region 1 was *required* to specify a numeric ratio for the wholly disproportionate cost test is incorrect. There is no such requirement. Interestingly, UWAG's suggestion that the ratio should be around 3:1, UWAG Br. at 27, is contradicted by Petitioner's suggestion that 10:1 might be appropriate. Pet. Br. at 32.

disproportionate to the benefits of doing so. Region 1 took into account the range of economic assessments in the record, as well as the Region's qualitative assessment. The Region also considered potential non-water quality effects, such as energy supply, air quality, consumer electric rate, and local neighborhood effects. On the basis of *all* these considerations, the Region concluded that the benefits of installing BTA were very substantial and *not* wholly disproportionate to the costs of doing so. This remained true whether the Region's or Petitioner's cost estimates were used. *See* Ex. 2 at Ch. IV: 41-45, 38-41; and Ex. 4 at Ch. 7: 162-81. The Region properly did not set a numeric ratio criterion because more than just monetized analyses were factored into the decision.⁵⁶

The case law indicates that the Agency has substantial discretion in determining the point at which costs become wholly disproportionate to the benefits. *See* cases cited in Reg. 1 Resp. at 24 - 25 & n. 34. *See also Riverkeeper*, 358 F.3d at 195. Moreover, as the Region explained in response to comments on the permit, Ex. 2 at IV-21, Agency guidance and economic principles recognize that numeric results from monetized analysis are not strictly determinative of the policy choice to the exclusion of considering other more qualitative factors.⁵⁷ *See* n. 54, *supra*. The Region's decision was rational and adequately explained, and should be upheld.

4. The Region Reasonably Considered the Cost of Compliance with the Permit's Limits under CWA § 316(b)

The Region reasonably evaluated the costs BPS would incur to comply with the permit's cooling water intake limits and adequately considered and responded to comments concerning

⁵⁶ Looking *only* at the ratio of costs to monetized benefits leaves out other important considerations in appropriate decision-making, including benefits that cannot be monetized. *See* Economic Guidelines at 178.

⁵⁷ *Cf. Sierra Club v. Costle*, 657 F.2d 298, 332-35 (D.C. Cir. 1981) (econometric models are at best imperfect and ultimate responsibility for the policy decision remains with the agency rather than "the computer").

cost issues.⁵⁸ While Petitioner and UWAG criticize the Region's cost assessments, largely repeating prior arguments, these issues are *immaterial* to resolution of this permit appeal because it is undisputed that the cost of compliance is not impracticable, and because the Region concluded that even the (likely overestimated) costs estimated by Petitioner would not be wholly disproportionate to the benefits of complying with the permit's limits. *See* Reg. 1 Resp. at 142, 149, 56, 154; Ex. 2 at Ch. IV: 41, 34, 44, and at Vol. II, Apps. A, T.

Petitioner and UWAG argue that Petitioner's cost analysis was "site-specific," while the Region's analysis was "generic" and, therefore, suspect. Region 1 refuted this criticism in its earlier brief by explaining that its analysis considered many site-specific factors.⁵⁹ *See* Reg. 1 Resp. at 145-46; Ex. 2 at Ch. IV: 76-78, 87, 113, and at Vol. II, App. O at 12-14; App. P; App. U; Ex. 4 at Ch. 7: 9, 34-36, 38.⁶⁰ Petitioner also alleges, again, that Region 1 ignored Petitioner's cost estimates and its comments on the Region's estimates. These arguments are incorrect. The Region's "line-by-line analysis" was based directly on an independent evaluation of Petitioner's estimate. *See* Reg. 1 Resp. at 146. In addition, the Region considered Petitioner's cost estimates, including the analyses of both of Petitioner's engineering consultants, and discussed them at

⁵⁸ *See* Reg. 1 Resp. at 23-25, 104-05, 141-153, Table 2 ("Response to Engineering Issues"), Table 3 ("Response to Economic Issues"); *see also* Ex. 2 at Ch. IV: 31-38, 75-88, and at Vol. II, App. O at 17.

⁵⁹ Indeed, the Region's "line-by-line analysis" was a site-specific approach that built off of the Stone & Webster site-specific figures. In addition, in response to Petitioner's arguments regarding the specific costs for cooling tower equipment used in the analysis, the Region has already explained why its approach was appropriate. Reg. 1 Resp. at 145-47, Table 2, ¶ 39.

⁶⁰ Region 1 also included other site-specific components in both its line-by-line method and its § 316(b) method analyses, including an evaluation of the cost of site-specific unit outages that might be required at BPS during a cooling system conversion, the cost of cooling tower equipment specified to handle salt water, and labor cost in the local market. *See, e.g., Id.* at 142-45, 147-50; Ex. 2 at Ch. IV: 76-77, 87, and at Vol. II, App. O at 12-14, App. P at 1. The Region's financial analysis also took site-specific factors into account, such as outage costs, energy costs, tax considerations, and other factors. *See* Reg. 1 Resp. at 141-42; Ex. 2 at Ch. IV: 82-83, and at Vol. II, App. A.

length in its response to comments. *See* Ex. 2 at IV: 75-76; Reg. 1 Resp. at 104 (and internal references). While making certain adjustments to its cost analysis in response to comments, Region 1 also fully explained its decision to rely upon its own cost and engineering assessments. *See* Reg. 1 Resp. at 104-05, 141-50, Table 2, ¶¶ 6, 85; Ex. 2 at Ch. IV: 31-41, 75-88.

Third, Petitioner again questions the experience of Region 1's consultants. The Region has already explained why its consultants were suitably qualified for the tasks they performed. *See* Reg. 1 Resp. at 104-05, Table 2 ¶ 8; Ex. 2 at IV-76. Finally, Petitioner and UWAG again criticize Region 1's use of the § 316(b) rulemaking cost method for estimating cooling tower conversion costs. These arguments establish no infirmity in the Region's assessment of costs for BPS.⁶¹ The Region explained why it had determined that this costing methodology, as improved in response to comments on the BPS permit, was a valid method of assessing costs for the BPS permit. *See* Ex. 2 at Vol. II, App. O at 1-2, App. P. UWAG's assertions that this costing methodology was invalidated by EPA in the § 316(b) national rulemaking are irrelevant to this permit proceeding and are incorrect. *See id.*

C. Region 1 Properly Determined That the Permit's Cooling Water Intake Limits Could Not Be Made Significantly Less Stringent Without Violating State Water Quality Standards

As discussed above, Region 1 properly determined that closed-cycle cooling constitutes

⁶¹ UWAG states that its analysis "showed that the [§ 316(b) cost method] provided a wholly unrealistic basis for estimating costs of retrofitting closed cycle cooling" and was based on costs for new facilities with a "20% 'retrofit' factor." This is incorrect. *See* Region 1 Resp. at 149-50 (Region used a 30% retrofit adjustment factor for the § 316(b) cost method). In addition, Petitioner and UWAG make much of the U.S. Department of Energy's ("DOE") comments questioning the § 316(b) method in the context of the Headquarters rulemaking. These comments did not address Region 1's analysis for BPS. Region 1 has already explained that it is not required to respond to all comments submitted in the national rulemaking in the context of issuing this specific permit. *See* Ex. 2 at IV-1 (citing *NRDC v. EPA*, 863 F.2d 1420, fn. 7 (9th Cir. 1988) ("requiring each EPA Region to consider all the comments relating to the national rulemaking in each BPJ permit would impose an unreasonable burden on the agency.")). Nevertheless, because DOE's comments were provided to the Region, Region 1 *did* consider and respond to them in the context of the BPS permit. *See* Ex. 2 at Ch. IV: 81-82.

BTA for BPS and, on that basis, the permit's CWA § 316(b) limits should be upheld. However, Region 1 has two additional, independent statutory bases for those limitations -- CWA § 401 and CWA § 301(b)(1)(C) -- that reflect the implementation of Massachusetts and Rhode Island water quality standards. Ex. 4 at Ch. 5: 4, and at Ch. 7: 27-28, 128-29, 163. Petitioner contests both of these statutory bases and raises issues relating to EPA's interpretation of the applicable state water quality standards ("WQS"). None of these objections has merit.⁶²

1. Region 1 Properly Evaluated Compliance with Massachusetts Water Quality Standards

Petitioner and UWAG argue that Massachusetts WQS do not apply to cooling water withdrawals, and that the Region's reliance on the state WQS exceeded its authority under the CWA. The Region disagrees. Both §§ 401 and 301(b)(1)(C) authorize the Region to ensure that cooling water withdrawals are consistent with Massachusetts' designated uses for Mount Hope Bay, which include "excellent habitat for fish [and] other aquatic life . . ." and recreational fishing. See 314 CMR 4.05(4)(a). Sections 401(a) and (d) forbid issuance of a federal permit for a discharge to waters unless the state in which the discharge is located certifies that the discharge will comply with, *inter alia*, state WQS. Section 401(d) is interpreted to authorize states to include conditions in their certifications which provide reasonable assurance that the overall "activity" associated with a discharge will not violate applicable WQS and other appropriate requirements of state law. *PUD No. 1 of Jefferson County v. Washington Dep't of Ecology*, 511 U.S. 700, 711-12 (1994).

⁶² Region 1 addressed Petitioner's original water quality arguments in Reg. 1 Resp., at 89-98, and pointed out that certain of the arguments should be barred because they were not presented in comments on the permit. In an effort to resuscitate these arguments, Petitioner asserts that the Region's Response to Comments was the first time it indicated that cooling water intake limits would also need to satisfy state WQS. Pet. Br. at 35. This is obviously incorrect as revealed by the above-referenced pages from Region 1's analysis for the draft permit.

While Petitioner does not challenge the general applicability of § 401 to cooling water withdrawals, it claims that in this case there is no clearly applicable standard for cooling water withdrawals in the Massachusetts regulations which would enable the State to assert § 401 authority over such withdrawals. It further argues that the State did not include any specific conditions in its certification and, therefore, that EPA has improperly asserted an independent right under § 401 to establish limits based on state law.

Petitioner is incorrect in its assertion that because Massachusetts' WQS do not "specifically" address cooling water withdrawals, the State cannot assert § 401 authority over the withdrawals. The Supreme Court has held that § 401 may be invoked to protect designated uses. *PUD No. 1*, 511 U.S. at 723 (upholding state certification conditions to protect designated use of fish habitat). *See also id.* at 714-718 (rejecting arguments that a state may only require compliance with specific criteria). Thus, the protection of designated uses in Mt. Hope Bay is an appropriate basis for intake limits under § 401 even if cooling water withdrawals are not explicitly mentioned in the Massachusetts WQS.

Petitioner and UWAG also argue that the Region's intake limits are not supported by the Massachusetts certification because it does not demand any particular intake conditions. This argument has no merit. Massachusetts' certification states that the permit's intake limits "adequately address entrainment and impingement impacts from [the BPS intake structure] and will allow for the attainment of the designated uses of Mt. Hope Bay." Ex. 5 at 2. While the certification does not explicitly address whether any conditions may be made less stringent, just two weeks later Massachusetts issued a permit under state law containing intake limits *identical* to those in the contested federal permit. Ex.1 at 1. (Massachusetts had proposed these limits in

its draft permit in July 2002.) The issuance of the state permit nearly concurrently with its § 401 certification indicates that the intake limits were consistent with and necessary to ensure compliance with state WQS. The Region acted reasonably in concluding that, under § 401(d), the limits could not be made significantly less stringent and still comply with state water quality requirements.⁶³ Ex. 2 at Ch. V: 5-14; see *In the Matter of General Electric Company, Hooksett, New Hampshire*, 4 E.A.D. 468, 471-72 (1993) (holding that state's expressed intent to adopt the federal permit as the state permit "clearly indicated that nothing less than what was written in the permit would satisfy State requirements").

The intake limitations contested here are also authorized under § 301(b)(1)(C). Independent of a state's § 401 certification, EPA is obliged under § 301(b)(1)(C) to ensure that its NPDES permit limits satisfy applicable state water quality requirements. See *In re Teck Cominco Alaska Incorporated, Red Dog Mine*, NPDES Appeal No. 03-09, slip op. at 9, 28, 40,43-47 (EAB, June 15, 2004); Decision of the General Counsel, GCO No. 58 (March 29, 1977), at 337-38; Reg. 1 Resp. to Pet. for Rev., at 93 n. 64; Ex. 2 at Ch. V: 8-9, 13; Ex. 4 at 5-6.⁶⁴

Petitioner contends, however, that § 316(b) is the *sole* statutory requirement that can apply to cooling water withdrawals in the absence of a specific state certification under § 401(d). The basis for Petitioner's argument is unclear. If it is arguing that the more specific § 316(b)

⁶³See also, *Amicus Brief of the Massachusetts Department of Environmental Protection in Support of EPA NPDES Permit No. MA-003654* (Dec. 22, 2003), 5-11. UWAG attempts to contradict the State's formal interpretation of its own legal requirements by pointing to an internal MA DEP email discussing § 316(b). Region 1 has already demonstrated that this argument misreads the DEP's email. Reg. 1 Resp. at 94-95 & n. 66. *Accord Supplemental Amicus Brief of the Massachusetts Department of Environmental Protection* (June 24, 2004), 2-5.

⁶⁴See also, Ex. 2 at Ch. V: 8-9; Ex. 4 at Ch. 5: 1, 5; *In re City of Moscow, Idaho*, NPDES Appeal No. 00-10, slip op. at 6 - 7, 23, 38 n. 58, 43 - 44, 47 (EAB, July 27, 2001); *Roosevelt Campobello International Park Com. v. United States EPA*, 684 F.2d 1041, 1056 (1st Cir. 1982).

technology standard “trumps” the more general requirements of § 301(b)(1)(C), it points to no support for such an argument. It is well-settled in the context of §§ 301 and 306 (to which § 316(b) refers) that technology standards provide the minimum requirements while WQS, as applied through § 301(b)(1)(C), may result in more stringent requirements. *See, e.g. PUD No. 1*, 511 U.S. at 704; *NRDC v. EPA*, 859 F.2d 156, 208 (D.C. Cir. 1988). There is no reason to interpret the interplay between technology and water quality requirements differently in the context of § 316(b). Indeed, to do so would fail to give effect to a very important provision in the CWA’s unified statutory scheme.⁶⁵ It also would be inconsistent with CWA § 510, which provides that state requirements may be more stringent than federal requirements unless the CWA expressly provides otherwise. Section 316(b) does not so provide.

UWAG takes a different tack. It argues that permit limits imposed under § 301(b)(1)(C) may be applied only to discharges, not to cooling water withdrawals, because the heading of § 301 is “effluent limitations.” This argument was not made in the Petition for Review and cannot be made now. *See Order Granting Review* at 9, 10. It is also incorrect. In *PUD No. 1*, 511 U.S. at 713 n.3, the Supreme Court described § 301(b)(1)(C) as a “broad enabling provision” that “expressly refers to state water quality standards and is not limited to discharges.” Indeed, § 301(b)(1)(C) refers neither to “effluent limitations” nor to “discharges.” It would also be anomalous for EPA to have an independent responsibility under § 301(b)(1)(C) to ensure that *effluent*-related permit conditions satisfy state WQS while being barred from implementing the

⁶⁵ *See Moskal v. United States*, 498 U.S. 103, 109-10 (1990); *Environmental Defense Center, Inc. v. EPA*, 344 F.3d 832, 844 (9th Cir. 2003) (in upholding EPA regulation of small municipal separate storm sewers through NPDES permits despite absence of the word “permit” from § 402(p)(6), court notes “bedrock principle that statutes not be interpreted to render any provision superfluous”).

same WQS with respect to cooling water intake conditions. Moreover, 40 C.F.R. § 122.4(d), one of several regulations which implement § 301(b)(1)(C), prohibits the issuance of permits “[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.” *See In Re Government of the District of Columbia Municipal Separate Storm Sewer System*, 10 E.A.D. 323, 329 (2002). This prohibition is not limited to discharges, but rather applies to *any* condition established in the permit consistent with the CWA. Therefore, Region 1 was not only authorized, but was required, to ensure that the contested intake conditions under § 316(b) would satisfy the Massachusetts’ WQS.

For the foregoing reasons, Region 1 acted reasonably and well within its authority to consider Massachusetts’ WQS in establishing cooling water intake limitations.

2. Region 1 Properly Evaluated Compliance with Rhode Island’s WQS

Petitioner and UWAG argue that Rhode Island’s WQS do not apply to cooling water withdrawals in this case because the language of § 401(a)(2) (related to “affected states”) only applies to discharges. They assert that the Region’s application of Rhode Island’s WQS relied solely on the Supreme Court’s decision in *PUD No. 1*, and that such reliance was misplaced because Rhode Island is not a certifying state here. These arguments must fail.

First, Petitioner did not present these arguments regarding the text of § 401(a)(2) or *PUD No. 1* in either its comments on the Draft Permit or its Petition for Review, so they should be considered waived. Second, these arguments are incorrect. The Region’s § 401(a)(2) analysis did not rest solely on *PUD No. 1*; it also relied upon the text and purpose of the statute, applicable EPA regulations, and the Supreme Court’s decision in *Arkansas v. Oklahoma*, 503 U.S. 91, 104 - 08, 111 (1992). *See* Reg. 1 Resp. to Pet. for Rev., at 97-98; Ex. 2 at Ch. V: 4, 6-9;

Ex. 4 at Ch. 5: 5-6, 9. Based on these authorities, the Region reasonably interpreted the CWA to mean that while a discharge must exist to “trigger” the § 401(a)(2) process, once the relevant discharge exists, the overall activity must be controlled by the permit to comply with WQS. Section 401(a)(2) requires that the permitting agency “shall condition such license or permit in such manner as may be necessary to insure compliance with applicable water quality requirements” of any affected state. Conditions required under this section are not restricted to discharges alone, but rather can reach activities such as cooling water intake when necessary to ensure compliance with the affected states’ WQS. *See also* 40 C.F.R. § 122.4(d). In *Arkansas*, the Supreme Court found 40 C.F.R. § 122.4(d) to be a “reasonable exercise of the Agency’s statutory authority” under both § 402(a)(2) and § 301(b)(1)(C) in light of the broad purposes and objectives of the Act, including achievement of state WQS. *Arkansas*, 503 U.S. at 103, 105-106.

These statutory objectives would be undermined by Petitioner’s interpretation that while permit limits must ensure that activities associated with a discharge comply with WQS in the state in which the discharger is located, in other affected states only the discharges themselves (and not the associated activities) must comply. This approach is neither required by the text of § 401(a)(2) nor consistent with 40 C.F.R. § 122.4(d). Thus, it was reasonable for the Region to determine that Rhode Island’s WQS applied in this case and to have based permit limits on a reasonable assessment of what is required to ensure compliance with those standards.⁶⁶

Petitioner asserts that the Region has misapplied Rule 8.D.(1)(a) of Rhode Island’s

⁶⁶The hypotheticals posed in Petitioner’s and UWAG’s “slippery slope” argument are a far cry from the instant case. Here, where it is undisputed that the BPS discharge affects Rhode Island’s waters, and where the Region determined that the plant’s water withdrawals from the interstate estuary are killing billions of organisms and are causing or contributing to depleted fish populations within both states’ waters, the Region reasonably decided that in issuing its permit consistent with § 401(a)(2), the activity as a whole, rather than just the triggering discharge, must be limited in a manner to ensure compliance with Rhode Island’s WQS.

WQS, and that the provision cannot be relied upon to address the effects of an anthropogenic activity that occurs in another state. On the contrary, as Rhode Island explained in its Amicus Brief at 11-12, the State interprets its WQS more broadly, and the intent of the provision is to protect Rhode Island's waters from the adverse effects of both pollutants and anthropogenic activities, regardless of where the pollutant source or activity is located. *See also* Ex. 6 at 1-2; and Att. F hereto (new Ex. 91) (AR 1161, Oct. 4, 2002, Letter from RI DEM to Region 1), at 1. This interpretation is also supported by Rule 9.A, which forbids activities that would likely interfere with existing or designated uses. *See* Att. G hereto (new Ex. 92) (excerpt from Rhode Island Water Quality Regulations). *See* Ex. 2 at V-14. Given the language and intent of the WQS, it was reasonable for the Region consider the effects of the intake on Rhode Island's waters in fulfillment of EPA's § 401(a)(2) obligations.⁶⁷

Finally, UWAG renews Petitioner's argument that the Region inappropriately relied on Rhode Island's narrative criteria and designated uses to justify the limits on the intake, in lieu of actual numeric criteria for impingement and entrainment. *See* UWAG Brief, 32 n. 25, 34. The Region has already responded to this argument above and in its Response to the Petition, at 97-98. *See also* *PUD No. 1*, 511 U.S. at 713-18.

For the foregoing reasons, Region 1 acted reasonably and well within its authority to consider Rhode Island's WQS in establishing cooling water intake limitations, and in concluding that the intake limits derived from the Region's § 316(b) analysis cannot be made significantly less stringent and still comply with Rhode Island's WQS, and in adding an additional condition

⁶⁷ The Region also relied on § 301(b)(1)(C) as a basis for including intake permit limits needed to satisfy Rhode Island's standards. As discussed above, permit limits, whether based on application of a national guideline or a BPJ analysis, must also satisfy § 301(b)(1)(C); *see also* 40 C.F.R. §§ 122.4(d) and 122.44(d)(5).

to the final permit in response to Rhode Island's § 401(a)(2) analysis. *See* Ex. 2 at V-14; *see also* Ex. 4 at Ch. 7: 128-29, 163, 170-72.

III. Region 1 Did Not Abuse its Discretion in Issuing BPS's Permit in October 2003, Rather Than Delaying Until After Completion of the CWA § 316(b) Phase II Rule

At bottom, Petitioner seems most of all to object to the timing of permit issuance.

Petitioner alleges that the Region abused its discretion in issuing the long-expired BPS permit in October 2003, rather than scuttling the entire five-year effort and beginning the process anew after the CWA § 316(b) Phase II Rule takes effect, which is now expected to occur on September 7, 2004, almost one year after issuance of the final permit, and more than two years after publication of the draft permit. This argument has no merit. Region 1 did not abuse its discretion in issuing the permit when it did, and its basis for doing so is well-supported by the record.⁶⁸

A. The Timing of Permit Issuance Is a Policy Decision Left to the Region's Discretion.

When asked to review policy choices, the Board independently ensures that the choice made by the Region is consistent with applicable law, but recognizes that the exercise of that choice is subject only to the requirement that it is reasonable in light of the record. *See Phelps Dodge*, 10 E.A.D. 460, 522 (EAB 2002); *In re Chemical Waste Management of Indiana, Inc.*, 6 E.A.D. 66, 73-78 (EAB 1995). In past NPDES permit appeals, the Board has been wary of

⁶⁸ Because the CWA § 316(b) Phase II Rule is immaterial to this proceeding, *see* Region 1's Second Motion to Strike, the Region has not responded to Petitioner's and UWAG's arguments concerning the specifics of the Rule or its supporting record. The Region submits that this permit appeal is not the appropriate forum to litigate or otherwise determine how the new Rule should be interpreted or implemented. At the same time, Region 1 does not agree with many of Petitioner's and UWAG's characterizations of the Phase II Rule and its supporting record. For example, Petitioner incorrectly compares, Pet. Br. at 2, its estimate of the *total* cost of a closed-cycle retrofit at BPS over 20 years to the Agency's estimate of *annualized* (or per year) compliance costs for (some of the) companies covered by the Phase II Rule. *See* Phase II Rule Preamble at 313. This comparison is also not meaningful because it is clear that under the new Rule, which does not dictate how a plant must comply with the Rule's standards, there will be significant variations in compliance costs for facilities depending on which standards apply to them and what steps they need to take in order to comply. *See, e.g., id.* at 391-93.

substituting its policy judgment for that of the Region. *See Phelps Dodge*, 10 E.A.D. at 520-22.⁶⁹ Region 1's decision to issue the BPS permit in October 2003 was lawful and reasonable in light of the record and should be upheld.

1. Region 1's Decision to Issue the BPS Permit in October 2003 was Legally Authorized, and Was Reasonable and Supported by the Record and Does Not Constitute an Abuse of Discretion

Under CWA § 402(b)(1)(B), the term of an NPDES permit is not to exceed five years. EPA's regulations recognize, however, that issuing a new permit prior to the expiration of the existing permit may be impracticable because of time or resource constraints. Therefore, an expired permit may be administratively extended until the effective date of a new permit. 40 C.F.R. § 122.6(a). The previous BPS permit expired in July 1998. By October 2003, Region 1 had concluded a five-year, in-depth analysis of numerous technological, economic and environmental issues associated with BPS's cooling water intake structure. Reg. 1 Resp. at 6-10. The Region had issued the draft permit in July 2002, provided an opportunity for public comment, and considered information from the two affected states, Massachusetts and Rhode Island, and other federal agencies. Region 1 concluded, based on this effort, that it was practicable and appropriate to issue BPS a new permit in October 2003 to replace the 1993 permit still governing its discharges and intake, and it did so.

Where, as here, an expired NPDES permit has been administratively continued pursuant

⁶⁹ USGen's claim that "[n]o deference is accorded by the Board to the . . . policy determinations made by a regional office of EPA" is not supported by the cases it cites. Pet. Br. at 5. Both *In re Mobil Oil Corp.* 5 E.A.D. 490 (EAB 1994) and *In re Lazarus, Inc.*, 7 E.A.D. 318 (EAB 1997) were appeals from decisions of an administrative law judge in enforcement cases. Enforcement cases are reviewed *de novo*, in accordance with 40 C.F.R. 22.31(a). *See* Nancy B. Firestone & Elizabeth C. Brown, *Ensuring the Fairness of Agency Adjudications: The Environmental Appeals Board's First Four Years*, 2 ENVTL. LAW. 291, 303 (1996). By contrast, the Board's jurisdiction over NPDES permit conditions is governed by 40 C.F.R. Part 124, as discussed in the body. *See id.* at 321.

to 40 C.F.R. § 122.6, the Region has discretion regarding the timing of the issuance of a new permit. Analogous to the choice confronting Region 9 in *Phelps Dodge*, 10 E.A.D. 460, 522 (EAB 2002), which concerned the choice of proceeding under the CWA or CERCLA, Region 1 could have chosen either to issue the permit when it did or to delay permit issuance pending promulgation of the Phase II rule. *See Phelps Dodge*, 10 E.A.D. at 522. Its decision to issue the permit was authorized by law.

The Region did not abuse its discretion when it issued the BPS permit on a BPJ basis without waiting for the future promulgation of the Phase II CWA § 316(b) Regulations. Region 1 based its decision on several reasons set forth in the permit record. *See Reg. 1 Resp.*, at 85-89; Ex. 4 at Ch. 7: 3-6; Ex. 2 at Ch. IV: 3-7 (incorporating by reference Exs. 21, 22, 24, 25, 26, 27). First, in the preamble to the proposed Phase II Rule, and in related guidance documents, Exs. 22, 26, 27, the Administrator had specifically instructed the Regions to continue issuing permits on a BPJ basis while the Phase II Rule was pending, and had indicated that those requirements could be *more* or less stringent than those imposed by any final regulation. *See 67 Fed. Reg.* 17122, 17124 (April 9, 2002). Second, apart from the § 316(b) limitations, the new permit was needed to address important thermal discharge issues. Third, the Region determined that BPS cooling system operations were contributing to a substantial environmental problem in Mt. Hope Bay that the new § 316(b) limitations would help address. Fourth, delaying issuance until after the Phase II Rule became effective would have necessitated a new draft and final permit and required resolution of many new, complex legal, factual, and policy issues intrinsic to the implementation of any new rule. It also would have delayed compliance with § 316(b) limitations, to say nothing of the new § 316(a) limitations. Fifth, the States and others called on the Region to proceed with

the permit. Sixth, when Region 1 made its decision, the content of the final Phase II Rule was far from clear; indeed, possible final results included limitations based on closed-cycle cooling, *see* 67 Fed. Reg. at 17154-58, which was the technology basis for the § 316(b) limitations contained in BPS's final permit, and retaining the existing BPJ approach. 67 Fed. Reg. 17122 at 17124, 17142, 17159 - 17167 (April 9, 2002). Finally, as evidenced by the Massachusetts § 401 certification, Rhode Island's § 401(a)(2) letters, and the Region's analysis of the States' WQS, *see* Section II.C, *supra*, delay to await the new Phase II Rule would have been futile because significant relaxation of the permit's intake limits would be precluded by state WQS.

Petitioner disagrees with the Region's policy decision not to delay permit issuance, but has identified no infirmity in the Region's reasoning that justifies a remand.

IV. No Other Circumstances Justify Remanding the Permit to Region 1 For Reconsideration.

Finally, Petitioner appears to assert that even if the permit reflected both the law applicable at the time of permit issuance and a sound record basis, the Board should nevertheless remand the permit because, it alleges, new regulations would compel a different outcome. *See* Pet. Br. at 23-25. This argument should be rejected.

Petitioner places considerable weight on *Puerto Rico Sun Oil Co. v. EPA*, 8 F.3d 73, 78-79 (1st Cir. 1993), but it is inapposite to the present case. Reg. 1 Resp. at 88-89. As the Board explained in *In re Ketchikan Pulp Company*, 6 E.A.D. 675, 680, 684, n. 13 (EAB 1996), the *Sun Oil* decision turned on a set of peculiar facts:

- 1) at the time of permit issuance, the Puerto Rico Environmental Quality Board ("EQB") was reconsidering its water quality certification in light of its ongoing rulemaking to authorize mixing zones;
- 2) both the EQB and the permittee had asked EPA Region 2 to defer issuing the

- permit until Puerto Rico had completed this process;
- 3) Region 2 had provided “no explanation of its refusal to wait”; and
 - 4) Region 2's action appeared “contrary to the State’s intent” regarding application of its water quality standards.

Although Region 1 acknowledges that the Phase II rulemaking was pending when the Region issued the BPS permit, none of the other *Sun Oil* factors is present here. In this case:

- 1) the rulemaking entity – the EPA Administrator – specifically directed that § 316(b) permits be issued on a BPJ basis pending completion of the rulemaking;
- 2) Region 1 provided a detailed, rational basis in the record for proceeding;
- 3) neither Massachusetts nor Rhode Island requested a delay in permit issuance; and
- 4) the Region’s action facilitates, rather than frustrates, the States’ intentions.

Finally, as this Board discussed in *Ketchikan*, 6 E.A.D. at 684, n. 13, the First Circuit has refused to extend *Sun Oil*, thus demonstrating the limited, fact-specific character of the holding. See *Caribbean Petroleum Corporation v. EPA*, 28 F.3d 232, 235-36 (1st Cir. 1994).

The other decisions cited by Petitioner do not support a remand. At most, they stand for the proposition that the Region *may* consider a new regulation’s effect on an ongoing permitting decision, but that the Region is not compelled to apply new regulations where, as here, there is no change to the underlying statute and the regulations themselves do not compel such reconsideration. In *In re J&L Specialty Products Corp.*, 5 E.A.D. 31 (EAB 1994), after Region 5 issued an NPDES permit with limits based on a designated use contained in the state’s WQS, see 5 E.A.D. at 66, but before the EAB had ruled on the permit appeal, the state eliminated the designated use. While stating that the Region had properly based the permit on the water quality standards in effect at the time of permit issuance, the Board also stated that “the Agency has the *discretion* to remand permit conditions for reconsideration in light of legal requirements that change before the permit becomes final agency action.” *Id.* (emphasis added). The EAB

remanded the permit for the Region to consider the new WQS. *Id.* Reconsidering the permit limits made sense because the legal basis for the limits in question was *eliminated* once the State's designated use was removed. The instant case is different because the Phase II Rule does not change the legal underpinnings for the BPJ-based CWA § 316(b) limits in the BPS permit.⁷⁰ Petitioner has also identified nothing in the Phase II Rule indicating that previously issued BPJ permits should be reopened and the new Rule applied.⁷¹ Indeed, if anything, the Phase II Rule *supports* – rather than undermines – the continued use of BPJ to develop § 316(b) limitations prior to the imposition of limitations derived from the new Rule's several compliance alternatives. *See* 40 C.F.R. § 125.95(a)(2)(ii). Moreover, the instant case is further distinguishable because there are separately applicable WQS which would preclude significant weakening of the intake limits.

Consistent with this analysis, the EAB remanded a RCRA permit to Region 4 *where the new regulation itself* “expressly provide[d] for a reevaluation of all pending and issued permits where construction has not begun.” *In re GSX Services of South Carolina, Inc.*, 4 E.A.D. 451,

⁷⁰ *See* Reg. 1 Resp. at 86 (*citing NRDC*, 859 F.2d at 199 (“ . . . BPJ limitations are as correct and as statutorily supported as permit limits based upon an effluent limitations guideline.”)). Also, the case of *Ziffrin, Inc. v. United States*, 318 U.S. 73 (1943), cited by Petitioner, Pet. Br. at 24, is inapposite. In *Ziffrin*, the Interstate Commerce Act was amended after the appellant had applied for a permit, but before the Interstate Commerce Commission had decided whether to issue it. 318 U.S. at 75. The Court held that *the statute*, as amended, governed the permit decision. *Id.* at 78. Here, there has been *no* statutory change, the permit was issued *prior to* the new regulations, and the Region's authority to have issued the BPS permit on a BPJ basis in October 2003 has not been altered. *See also Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988) (“Retroactivity is not favored in the law. Thus, congressional enactments and administrative rules will not be construed to have retroactive effect unless their language requires this result.”); *Litton Systems, Inc. v. American Telephone and Telegraph Co.*, 746 F.2d 168, 172-73 (2d Cir. 1984) (explaining “[t]he limited holding in *Ziffrin*”).

⁷¹ While Region 1 believes that the content of the Phase II rule is irrelevant to today's proceeding and is not properly before the Board, *see* Region 1's Second Motion to Strike, the Region recognizes that the Board in other cases, as discussed below, has made a limited examination of the content of later-in-time regulations for purposes of determining whether they might require an earlier permit to be reopened.

465 n.17 (EAB 1992). In contrast, the Phase II rule does nothing of the sort. Rather, today's case is analogous to the situation in *In re Homestake Mining Co.*, 2 E.A.D. 195 (CJO 1986), which Petitioner did not cite. In that case, the Chief Judicial Officer held that despite promulgation of new final NPDES regulations after permit issuance, but before resolution of the permit appeal, the final permit issued by the Region should not be conformed to the terms of the new regulation because the new regulations did not require it. 2 E.A.D. at 199-200, and n. 9.⁷²

Finally, Petitioner's reliance on dicta in *In re Liquid Air Puerto Rico Corporation*, 5 E.A.D. 247, 254 n.14 (EAB 1994) is misplaced. The Board's comment that "regulations adopted before a permit decision becomes final upon . . . review should be *considered*["],]" *id.* (emphasis added), was only incidental to the main decision on *statutory* grounds. *See id.* at 254-55. Further, the note said only that a new regulation should be considered, not that it was controlling.⁷³

Finally, as discussed above, there are also strong policy reasons not to reopen the permit to apply the Phase II Rule and a remand to do so would be unwarranted.⁷⁴

⁷² The CJO also cited *State of Alabama v. EPA*, 557 F.2d 1101, 1108-10 (5th Cir. 1977), in which the court upheld the Agency's decision not to apply new standards promulgated after issuance of an NPDES permit, stating as follows: ". . . ongoing proceedings should not be interrupted when proposed regulations become final. A contrary rule would create havoc in EPA's permit development procedures. Thus, it was entirely appropriate for EPA to rely principally upon its own "personalized" BPT, as established in the Consent Decree, for the U.S. Pipe facility."

⁷³ *See also In re Rubicon, Inc.*, 2 E.A.D. 551, 555, 566 (CJO 1988) (new effluent guidelines promulgated after issuance of BPJ permit did *not* automatically apply, though Region could *consider* withdrawal of permit where Agency guidance urged such withdrawal and reissuance to conform to new guidelines). *Rubicon* is distinguishable from the instant case. In *Rubicon*, EPA's Office of Water had expressly recommended permit withdrawal and revision to reflect the new guidelines at issue, whereas here EPA has issued no such recommendation. To the contrary, during the rulemaking process the Agency repeatedly and expressly directed the Regions to continue BPJ permitting under CWA § 316(b).

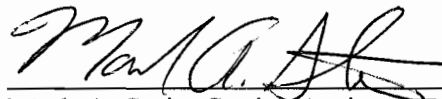
⁷⁴ UWAG argues that the BPJ determination would not be applicable at the next permit reissuance and, therefore, that it would be inequitable to require BPS to comply with the new permit limits given their expense. UWAG Br. at 5 n. 3. This is a new argument not previously presented in Petitioner's comments on the permit or in the Petition for Review. It should be considered waived. Indeed, during permit development, Petitioner argued a contrary position, urging that permit issuance should be delayed because otherwise the anti-backsliding requirements of the CWA would lock them into future compliance with the permit's limits regardless of whether later regulations

CONCLUSION

Region 1 respectfully requests that the Petition for Review and Petitioner's various requests for relief be denied.

Respectfully submitted by EPA Region 1:

Dated: July 8, 2004



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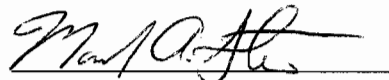
were less stringent. *See* Ex. 2 at Ch. IV: 3-4.

CERTIFICATE OF SERVICE

I hereby certify that on this 8th day of July, 2004, EPA Region 1 served a true copy of its Brief in Response to Briefs of USGenNE and UWAG in Support of USGenNE's NPDES Permit Appeal on the following parties:

1. By Federal Express to Wendy B. Jacobs, Esq., Foley Hoag LLP, counsel for the Petitioner, USGen New England, Inc., at Foley Hoag LLP, 155 Seaport Boulevard, Boston, MA 02210-2600;
2. By Federal Express to James R. Allison, III, counsel for UWAG, at Hunton & Williams, LLP, Riverfront Plaza, East Tower, 951 East Byrd Street, Richmond, VA 23219-4074.
3. By Federal Express to Carol Lee Rawn, Esq., counsel for Conservation Law Foundation, at Conservation Law Foundation, 62 Summer Street, Boston, MA 02110-1016.
4. By Federal Express to Richard Lehan, Deputy General Counsel, Massachusetts DEP, One Winter Street, Boston, MA 02108;
5. By Federal Express to Tricia K. Jedele, Special Assistant Attorney General, Rhode Island Attorney General's Office, 150 South Main Street, Providence, RI 02903; and

Brian Wagner, Deputy Legal Counsel, Rhode Island Department of Environmental Management, 235 Promenade Street, Providence, RI 02908;
6. By Federal Express to Kendra L. Beaver, Attorney, Save the Bay, Narragansett Bay, Inc., 434 Smith Street, Providence, RI 02903;
7. By regular mail to Joseph L. Callahan, Board of Directors, Taunton River Watershed Alliance, Inc., P.O. Box 146, Bridgewater, MA 02324; and
8. By Federal Express to Ann Morrill, Vice President, Kickemuit River Council, 90 Dexterdaledale Road, Providence, RI 02906-1926.



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