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October 30, 2008

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U.S. Environmental Protection Agency
Clerk of the Board
Environmental Appeals Board
Colorado Building
1341 G Street, N.W., Suite 600
Washington, DC 20005

Mirant Canal, LLC
NPDES Permit No. MA0004928
NPDES Appeal No. 08-10

Dear Ms. Durr:

Enclosed for filing please find an original and five copies of Permittee Mirant Canal LLC's Reply to EPA Region 1's Brief on its Failure to Seek Comment on Significant Changes in the Final Permit (and exhibits thereto) in the above-captioned matter.

Please return a date-stamped copy of the Reply Brief (without exhibits) to me in the envelope provided. Should you have any questions regarding this submittal, please let me know. Thank you for your attention to this matter.

Yours very truly,

James N. Christman

James N. Christman

Enclosures

cc: Mark A. Stein, Esq.
Richard T. Witt, Esq.

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In re: Mirant Canal, LLC)
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NPDES Permit No. MA0004928)
_____)

NPDES Appeal No. 08-10

**PERMITTEE MIRANT CANAL, LLC'S REPLY
TO EPA REGION 1'S BRIEF ON ITS FAILURE TO SEEK
COMMENT ON SIGNIFICANT CHANGES IN THE FINAL PERMIT**

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TABLE OF CONTENTS

	<u>Page</u>
TABLE OF AUTHORITIES	i
I. Background: The Comment Period Focused on a Study to Collect the Facts	3
A. The Permitting Process Did Not Focus On Any Single Intake Technology, Let Alone Cooling Towers	7
1. The Fact Sheet	8
2. The Terms of the Draft Permit.....	9
3. The Region’s Requests for Information.....	10
4. Several Alternatives Were Available “at the Time”	10
B. The Mirant Canal Comments Were Designed to Respond to What the Region Was Proposing.....	11
II. Mirant Canal and the Public Could Not Reasonably Have Anticipated that the Final Permit Would Require Cooling Towers	13
A. A Proposal to Gather Information Is Entirely Different from a Proposal (or a Decision) that Available Information Supports a Particular Technology.....	14
B. Mirant Canal’s Comments Would Have Been Different Had It Known Cooling Towers Were Being Proposed.....	15
C. EAB and Judicial Decisions on “Logical Outgrowth” Have Reopened Records for Less Cause than Exists in This Case	18
D. Using a Draft Permit to “Defer” a Decision Is an Abuse of the Administrative Process	27
E. Brayton Point Illustrates Fair Notice of a Closed-Cycle Cooling Requirement.....	28
III. The Region’s Change in Approach During the Permitting Process Raised “Substantial New Questions” (40 C.F.R. §§ 122.43(b)(1) & 124.14(b)(3)).....	30
A. Changed Legal Requirements: The Phase II Rule Was Suspended.....	32
1. The Decision Changed from Information-Gathering to Installing a Particular Technology	32
2. The Performance Standards Were Suspended	35
3. The Second Circuit Decision Created Uncertainty About How Costs and Benefits Should Be Considered.....	36

4.	Region 1 Mistakenly Asserts that Mirant Canal Itself Found Closed-Cycle Cooling Technologically and Economically Feasible	38
B.	Changed Conditions	41
1.	Canal Station’s Changing Capacity Utilization Should Have Been Considered	42
2.	Costs Have Risen	46
3.	The Brayton Point Decision Came at the Very End of the Comment Period	46
4.	Summary as to Changed Legal Standards and Changed Facts	47
IV.	Region 1’s Other Reason for Not Reopening the Record Is Not Persuasive.....	48
V.	Conclusion	49

TABLE OF AUTHORITIES

	<u>Page</u>
<u>FEDERAL CASES</u>	
<i>AFL-CIO v. Donovan</i> , 757 F.2d 330 (D.C. Cir. 1985)	23
<i>American Med. Ass'n v. United States</i> , 887 F.2d 760 (7th Cir. 1989).....	23, 24
<i>American Standard, Inc. v. United States</i> , 602 F.2d 256 (Ct. Cl. 1979).....	23
<i>Arizona Pub. Serv. Co. v. EPA</i> , 211 F.3d 1280 (D.C. Cir. 2000), <i>cert. denied</i> , 532 U.S. 970 (2001)	27
<i>Bangor Hydro-Elec. Co. v. FERC</i> , 122 F.E.R.C. P61265 (2008).....	41
<i>Building Indus. Ass'n v. Babbitt</i> , 979 F. Supp. 893 (D.D.C. 1997), <i>aff'd</i> , 247 F.3d 1241 (D.C. Cir. 2001), <i>cert. denied</i> , 534 U.S. 1108 (2002).....	42
<i>Career College Ass'n v. Riley</i> , 74 F.3d 1265 (D.C. Cir. 1996)	27
<i>Chamber of Commerce of the United States v. SEC</i> , 443 F.3d 890 (D.C. Cir. 2006)	41
<i>Chocolate Mfrs. Asso. v. Block</i> , 755 F.2d 1098 (4th Cir. 1985).....	23
<i>Citizens for Better Forestry v. U.S. Dept. of Agric.</i> , 481 F. Supp. 2d 1059 (N.D. Cal. 2007).....	21, 22, 23, 41
<i>City of Vernon, California</i> , 111 F.E.R.C. P61092, <i>reh'g denied</i> , 112 F.E.R.C. P61207 (2005).....	41
<i>Entergy Corp. et al. v. EPA et al.</i> , <i>cert. granted</i> , 128 S. Ct. 1867 (April 14, 2008)	4
<i>Envtl. Integrity Project v. EPA</i> , 425 F.3d 992 (D.C. Cir. 2005).....	14
<i>Golden Spread Electric Cooperative, Inc. v. Southwestern Public Service Co.</i> , 123 F.E.R.C. P61047 (2008).....	41
<i>Jersey Central Power & Light Co.</i> , 77 F.E.R.C. P61001 (1996)	41
<i>Long Island Care at Home, Ltd. v. Coke</i> , 127 S. Ct. 2339 (2007).....	24
<i>NRDC v. U.S. EPA</i> , 279 F.3d 1180 (9th Cir. 2002).....	25, 26, 29

<i>Ober v. U.S. EPA</i> , 84 F.3d 304 (9th Cir. 1996)	41
<i>Portland Cement Ass'n v. Ruckelshaus</i> , 486 F.2d 375 (D.C. Cir. 1973), <i>cert. denied</i> , 417 U.S. 921 (1974)	41
<i>Riverkeeper, Inc. v. EPA</i> , 475 F.3d 83 (2d Cir. 2007)	<i>passim</i>
<i>Seacoast Anti-Pollution League v. Costle</i> , 597 F.2d 306 (1st Cir. 1979)	36-37
<i>Sierra Club v. Costle</i> , 657 F.2d 298 (D.C. Cir. 1981)	41
<i>Small Refiner Lead Phase-Down Task Force v. U.S. EPA</i> , 705 F.2d 506 (D.C. Cir. 1983)	26, 27
<i>Southwestern Public Service Co v. FERC.</i> , 53 F.E.R.C. P61084 (1990), <i>remanded on other grounds</i> , 952 F.2d 555 (D.C. Cir. 1992)	41
<i>W. Watersheds Project v. Foss</i> , 2006 U.S. Dist. LEXIS 73577 (D. Idaho Oct. 4, 2006)	41

APPEALS BOARD DECISIONS

<i>In re Amoco Oil Co.</i> , 4 E.A.D. 954 (EAB 1993)	18, 19
<i>In re District of Columbia Water and Sewer Authority</i> , NPDES Appeal Nos. 05-02, 07-10, 07-11, 07-12, 13 E.A.D. __, slip op. (EAB, March 19, 2008)	<i>passim</i>
<i>In re Dominion Energy Brayton Point, LLC (Formerly USGen New England, Inc.) Brayton Point Station</i> , NPDES 03-12, 12 E.A.D. 490 (EAB 2006)	3, 16, 28-29
<i>In re GSX Servs. of S.C., Inc.</i> , 4 E.A.D. 451 (EAB 1992)	18, 19, 20
<i>In re Indeck-Elwood, LLC</i> , PSD Appeal No. 03-04, 13 E.A.D. __, slip op. (EAB, September 27, 2006)	18, 19, 31, 42
<i>In re Old Dominion Elec. Corp.</i> , 3 E.A.D. 779 (Adm'r 1992)	18

STATUTES

33 U.S.C. § 1326(b)	<i>passim</i>
33 U.S.C. § 1318(a)	4

REGULATIONS

40 C.F.R. § 122.43(b)(1).....	31
40 C.F.R. § 124.14.....	32
40 C.F.R. § 124.14(b).....	41
40 C.F.R. § 124.14(b)(3).....	30
40 C.F.R. § 125.95.....	9
40 C.F.R. § 125.95(a)(2)(ii).....	32
40 C.F.R. § 125.95(b).....	10
40 C.F.R. § 125.95(b)(4)(D)(ii)(B).....	10
40 C.F.R. § 1500.1(b).....	41
40 C.F.R. § 1502.9(c).....	41
40 C.F.R. § 1506.3.....	41

OTHER AUTHORITIES

41 Fed. Reg. 17,388 (April 26, 1979).....	7
69 Fed. Reg. 41,576 (July 9, 2004).....	3, 5, 8, 10, 34
72 Fed. Reg. 37,107 (July 9, 2007).....	2, 4, 6
81 Fed. Reg. 17,387 (April 26, 1976).....	36
Brief for the Federal Respondents in Opposition, <i>Entergy Corp. et al. v. EPA et al.</i> , Nos. 07-588 <i>et al.</i> (March 2008).....	34, 36, 37
Brief for the Federal Parties as Respondents Supporting Petitioners, <i>Entergy Corp. et al. v. EPA et al.</i> , Nos. 07-588 <i>et al.</i> (July 2008).....	37, 38
U.S. Department of Energy, <i>Electricity Reliability Impacts of a Mandatory Cooling Tower Rule for Existing Steam Generation Units</i> (October 2008), http://www.oe.energy.gov/DocumentsandMedia/Cooling_Tower_Report.pdf	46

**PERMITTEE MIRANT CANAL, LLC'S REPLY
TO EPA REGION 1'S BRIEF ON ITS FAILURE TO SEEK
COMMENT ON SIGNIFICANT CHANGES IN THE FINAL PERMIT**

This is the response of the permittee, Mirant Canal, LLC ("Mirant Canal"), to EPA Region 1's brief on why it was justified in establishing closed-cycle cooling as the entrainment standard for the Mirant Canal Station after seeking comment only on a proposed study. The Region 1 brief, cited hereinafter as "EPA Br.," is titled "EPA Region 1 Brief on the Adequacy of the Opportunity to Comment on the Entrainment Control Provision of Canal Station's Final NPDES Permit" and dated October 10, 2008.¹

The EPA brief calls for the Environmental Appeals Board to address two questions, which we would characterize as follows:

1. Was the closed-cycle cooling requirement a "logical outgrowth" of the draft permit, when the draft permit proposed only a study to gather information that the Region identified as necessary for a decision?
2. After the Region proposed a study to select best technology available, did "substantial new questions" arise during the permitting process such that it was an abuse of discretion not to repropose the permit and take comments on closed-cycle cooling? The new questions, Mirant Canal asserts, arose from regulatory changes and unannounced changes in the Region's approach, resulting in the single most important and costly issue concerning this permit.

In the draft permit and Fact Sheet, Region 1 acknowledged that it did not have enough information to decide what is "best technology available" for the Canal Station.² Guided by the

¹ We have labeled the exhibits to this reply brief A, B, etc. so as not to confuse them with the Region's exhibits 1, 2, etc.

² "Understandably, given the timing of this Draft Permit and the relatively recent publication of the new Phase II Regulations, the permittee has not yet submitted a complete information submission" Fact Sheet 26.

then-effective Phase II Rule on best technology available, the Region proposed in the draft permit that the final permit would require a detailed study to gather the necessary information.

After the comment period closed, the Phase II Rule was remanded by the Second Circuit Court of Appeals in *Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d Cir. 2007) (known as *Riverkeeper II*) and then suspended by EPA altogether. 72 Fed. Reg. 37,107 (July 9, 2007). Even though the Region considered this development “obviously significant,”³ it did not ask for comments on it. But when the final permit came out about a year later, the Region had changed the basic requirement imposed on Mirant Canal from an extensive study to a requirement that Mirant Canal meet the standard of closed-cycle cooling as “best technology available” for entrainment for the Canal Station.

This change from a proposal that more information was needed (in the draft permit) to the conclusion that the Region had enough information to select closed-cycle cooling was a complete reversal. Mirant Canal’s comments would have been much different had closed-cycle cooling been proposed, as we explained in our Petition for Review. See Petition for Review of the Mirant Canal NPDES Permit Issued by EPA Region 1 (September 2, 2008) (hereinafter “Petition for Review”) at 51-76. Despite the Region’s arguments, a requirement to reconstruct a power plant at a cost of \$200 million or more⁴ is not a “logical outgrowth” of a proposal to collect information to make the decision as to best technology available.

³ The suspension of the Phase II Rule and the Second Circuit decision are “obviously significant new legal developments that have contributed to significant changes” in the permit. Response to Comments IX-52. EPA “significantly revised” the intake requirements. *Id.* IX-1, IX-19.

⁴ The latest estimates of capital costs, from the Shaw Group, are in Exhibit D and range from \$182.8 million to \$224.5 million. As noted in section III.B.2 below, it should not surprise anyone that costs have risen in the past five years since the Alden Lab Report was written, although some of the increase must be attributed to the fact that the Alden Lab Report was only a conceptual analysis based on a generic EPRI model. As Alden said, its 2003 study “was conducted to provide generalized methods and supporting data for estimating the cost of retrofitting” It cited an EPRI 2002 report. Alden Lab Report at 4-11.

Mirant Canal should have been allowed a chance to comment on a proposal to require cooling towers, and others should have too. The Town of Sandwich, which will be affected by a variety of social and environmental impacts⁵ if cooling towers are required, has said that it should have had an opportunity to comment on a closed-cycle cooling proposal, as the attached letters (Exhibits B and C) show.


I. Background: The Comment Period Focused on a Study to Collect the Facts

Here, in summary, is how the shift from a proposed study to a requirement of closed-cycle cooling unfolded:

April 21, 2000	Region 1 letter describing expectations for § 316(b) demonstration (Ex. 5)
April 30, 2003	Region 1 § 308 supplemental information request (Ex. 6)
October 29, 2003	Mirant Canal submits revised renewal application and response to April 30, 2003 § 308 letter, including Alden Lab Report dated October 2003 (Ex. 7)
July 9, 2004	Phase II Rule published (69 Fed. Reg. 41,576)
December 30, 2004	Region 1 asks for Proposal for Information Collection to comply with Phase II Rule (Ex. 11)
December 22, 2005	Draft permit, guided by Phase II Rule, proposes study (Ex. 4)
February 1, 2006	Brayton Point EAB decision affirms closed-cycle cooling for that facility. <i>In re Dominion Energy Brayton Point, LLC (Formerly USGen New England, Inc.) Brayton Point Station</i> , NPDES 03-12, 12 E.A.D. 490 (EAB 2006).
February 4, 2006	Mirant Canal files comments on draft permit (Ex. F)

⁵ See Petition for Review 53, 57-60, 71-73.

January 25, 2007	Second Circuit remands Phase II Rule (<i>Riverkeeper, Inc. v. EPA</i> , 474 F.3d 83 (2d Cir. 2007))
July 9, 2007	EPA suspends Phase II Rule and returns to “BPJ” decisions (72 Fed. Reg. 37,107)
April 14, 2008	U.S. Supreme Court grants certiorari to review Second Circuit decision on comparing costs and benefits (128 S. Ct. 1867, 1868)
August 1, 2008	Final permit issued with closed-cycle cooling requirement (Ex. 1, 2)

 = comment period

The history of the Canal Station’s compliance with § 316(b) goes back even further. The Station has operated since before § 316(b) was enacted in 1972. Region 1 last issued the NPDES permit June 23, 1989, and the permit was administratively continued after June 23, 1994. EPA Br. 9.

On April 21, 2000, Region 1 sent Mirant Canal a letter describing what the Region expected in Mirant Canal’s § 316(b) demonstration. EPA Br. 9, citing Ex. 5 (AR 45). This 2000 request listed 11 options and asked for information on all of them. It said that Mirant Canal’s framework for consideration should be “broad” and include alternatives such as the timing of scheduled maintenance shutdowns. Ex. 5 at 4-5. On April 30, 2003, Region 1 sent a supplemental information request under § 308(a) of the Clean Water Act (33 U.S.C. § 1318(a)), asking for additional information on intake options. EPA Br. 10, citing Ex. 6 (AR 8).

Mirant Canal’s revised permit renewal application and response to the Region’s information request included a report (Ex. 7) by Alden Research Laboratory, Inc. (Alden Lab) in October 2003. Mirant Canal’s cover letter of October 29, 2003 said “Mirant believes that based on the relative high cost of alternative intake technologies in comparison to the small benefits, the existing cooling water intake structure should be considered Best Technology Available”

(AR 158, Ex. G at 2). The Alden Lab Report estimated costs for several alternatives that were deemed to be commercially available, practicable “from an engineering stand-point,” and potentially biologically effective (Ex. 7 at 6-1). Neither Alden Lab nor Mirant Canal stated that cooling towers were economically practicable.

On December 30, 2004, Region 1 issued a supplemental § 308 request (Ex. 11) requiring Mirant Canal to “proceed to comply with the information collection and submission requirements of the Phase II regulations” (Ex. 11 at 2). The letter directed Mirant Canal to submit a Comprehensive Demonstration Study, as required by the Phase II Rule no later than January 7, 2008 (*id.* 3).

Based on its review of the 2003 Alden Lab Report, Region 1 proposed a draft permit on December 22, 2005 (AR 86, Ex. 4). With that draft the Region proposed to resolve the issue whether the Canal Station cooling water intake structures still complied, as they had since 1972, with § 316(b) of the Clean Water Act, which requires “best technology available” for “minimizing adverse environmental impact.” 33 U.S.C. § 1326(b).

At the time, this question was answered by EPA’s new “Phase II Rule” for intake structures, which required plants like the Canal Station to reduce impingement mortality 80-95% and entrainment 60%-90% below a “baseline” or else to implement site-specific controls the cost of which would not be significantly greater than the benefits. 69 Fed. Reg. 41,576, 41,686 (July 9, 2004). Importantly, the rule also required the gathering of data, in the form of a Comprehensive Demonstration Study, to determine whether these performance standards were met. *Id.* 41,687. During the transition period while the new rule was put into effect, permit writers were authorized to continue, as they had for 32 years, to use “best professional judgment.” The need for this interim “BPJ” period was precisely *because* time was needed to

collect the data to demonstrate compliance with the new 80-95% and 60-90% performance standards.

For that reason Region 1, appropriately, proposed to require Mirant Canal to gather the data required by the new rule. The Region said it was using its best professional judgment, but guided by the new Phase II Rule.⁶ As the Region's brief points out (EPA Br. 18 n.8), it proposed the study even though the Phase II Rule did not require it. Whether Region 1 was relying on the Phase II Rule (EPA Headquarters' best judgment of what § 316(b) required) or Region 1's own best professional judgment at the time independent of the Rule, it concluded that a study was needed. Mirant Canal and others submitted comments on the draft permit February 4, 2006 (Ex. F).

Almost a year later, in January 2007, the Second Circuit Court of Appeals remanded important parts of the Phase II Rule. *Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d Cir. 2007). EPA suspended the rule entirely on July 9, 2007. 72 Fed. Reg. 37,107 (July 9, 2007). A year later Region 1 issued the final permit for the Canal Station.

But now the permit was altogether different. Now the permit contained section 13.g of part I.A, which required that "the Permittee shall reduce current levels of entrainment of marine organisms . . . to an extent comparable to what would be achieved by the use of closed-cycle cooling" Mirant Canal could either install a closed-cycle cooling system or else "utilize another method" of achieving the standard of closed-cycle cooling. Final Permit (Ex. 1) § I.A. 13.g(ii).

⁶ "It is likely that information collected under the proposed requirements of the Draft Permit would be able to be used in fulfilling the permit application requirements . . . of the 316(b) Phase II Regulation." Fact Sheet 27.

As a practical matter, this means cooling towers. Region 1 did not identify, let alone evaluate, any other technology that would be “comparable” to closed-cycle cooling at Canal Station. In fact, the Region was doubtful any feasible substitute existed.⁷

A. The Permitting Process Did Not Focus On Any Single Intake Technology, Let Alone Cooling Towers

Region 1 claims that Mirant Canal had fair notice of the substantial changes between the draft and the final permit because cooling towers were always part of the permitting dialogue and because Mirant Canal (and the Massachusetts Division of Fisheries) commented on cooling towers. But the draft permit, proposing that Mirant Canal conduct additional studies in order to select one of five⁸ compliance alternatives, did not give fair warning that one of the five could be chosen *without* additional information, especially when the Fact Sheet said that the Region was *not* selecting any alternative “at this time.” Fact Sheet (Ex. 3) 44.⁹

Consequently the comments that Mirant Canal filed in 2006 were not a detailed analysis of closed-cycle cooling. They were brief and focused on the inordinate costs of cooling towers, as was appropriate for a proposal *not* to require them. In fact, it would have been unusual for Mirant Canal to have dwelt on cooling towers at length just when EPA Headquarters had confirmed¹⁰ in the Phase II rulemaking that closed-cycle cooling was *not* the national standard for “best technology available.” As Mirant Canal said in its comments, EPA had specifically

⁷ “EPA’s analysis has not uncovered any new information since issuance of the Draft Permit to suggest that these other technologies can perform as well as closed-cycle cooling” Response to Comments (Ex. 2) IX-21.

⁸ These are the five *regulatory* options offered by the Phase II Rule. The Region’s letter of April 21, 2000 (Ex. 5 at 3-4) identified 11 “BTA considerations” for impingement and entrainment, and the Alden Lab Report discussed “numerous” possible technologies and identified six for further evaluation. Fact Sheet (Ex. 3) 40.

⁹ Also, “EPA is not presently prepared to mandate closed-cycle technology” Fact Sheet 46.

¹⁰ Earlier EPA reached the same conclusion in its first set of § 316(b) rules in 1976. 41 Fed. Reg. 17,388 col. 2 (April 26, 1976).

concluded, as part of the Phase II rulemaking, that retrofitting recirculating cooling should *not* be used as the basis for setting BTA performance standards. Mirant Canal Comments (Ex. F) 33; 69 Fed. Reg. 41,605 col. 1 (July 9, 2004).

The Region's letters requesting information, the draft permit, and the Fact Sheet did address cooling towers, to be sure, as did Mirant Canal's comments. But in every case they addressed them as one among several alternatives. The thrust of the Region's remarks was that cooling towers should be studied along with other technologies. The thrust of Mirant Canal's comments was both that cooling towers were *not* warranted and that detailed studies were needed before cooling towers could be required. The comments devoted about as much space to wedgewire screens and coarse mesh Ristroph screens as to cooling towers. See Ex. F at 32-33. These were two other alternatives that EPA had proposed not to select as best technology available without further study, though Region 1 had advised that wedgewire screens, like cooling towers, should "continue to be considered." Ex. 11 at 32. Mirant Canal's comments were framed by the fact that the draft permit had proposed a study rather than a particular choice of intake technology.

1. The Fact Sheet

Region 1's brief recites the statements in the Fact Sheet that closed-cycle cooling was an "option." But consider the context: the Fact Sheet made clear that the Region did *not* yet have the information it needed to decide which option was best:

- "The Phase II Regulations prescribe a number of interrelated decisions to be made by EPA and the permittee during a multi-step process of information collection, submission and review . . ." 2005 Fact Sheet (Ex. 3) 25.
- "Clearly, working through all the potential issues could be a difficult, time-consuming process." *Id.* 26.
- "This approach to permitting during the period of transition from continued use of the BPJ approach to developing CWA § 316(b) permit limits using the

information required in 40 C.F.R. 125.95 [the Phase II Rule] is a reasonable and appropriate scheme which seeks to prevent undue delay to ongoing permitting as a result of the new regulations.” *Id.* 27.

- “[I]f it later turns out that for some reason the Phase II Regulations are not in effect at the time this Final Permit becomes effective (e.g., they have been stayed or remanded as a result of the litigation that has been filed . . .) then the Final Permit would still have a proper BPJ-based foundation for its § 316(b) requirements.” *Id.* 27.
- “. . . EPA has, in fact, determined BTA for this Draft Permit based on BPJ.” *Id.* 27. “. . . [U]nder these circumstances, ‘the permit would also need to include a schedule requiring the facility to submit the comprehensive demonstration study and other information required by 40 C.F.R. 125.95’” *Id.* 27.

Thus, the Region’s brief quotes selectively and out-of-context to magnify the role of closed-cycle cooling. Note in particular that the Region’s judgment (in the Fact Sheet statement in the next-to-last bullet above) was that, if the Phase II Rule was not in effect in the future, the “multi-step process of information collection, submission and review” would still provide a “proper BPJ-based foundation” for permit requirements. So the Region foresaw that the Phase II Rule might be invalidated and *still* concluded that the information-gathering process prescribed by the draft permit would be appropriate.

2. The Terms of the Draft Permit

Another reason the draft permit did not give notice that cooling towers were being seriously considered is the fact that so much of the permit was drafted in a way that assumed cooling towers would not be used. From the extensive monitoring requirements to the modifications to the intake screens to reduce impingement losses, many of the draft requirements would not be necessary if cooling towers were to be required in the final permit.

So focused was the draft permit on requiring an extensive study of impingement and entrainment that the earmarks of that approach remain in the final permit. Section I.A.9 of the final permit (Ex. 1) requires biological monitoring for fish eggs and larvae, aimed at measuring

the “Occurrence and Abundance of Species Entrained.” Entrainment monitoring is to be conducted year round, with three samples collected in each sampling week. An annual biological monitoring report is to be submitted, with information about trends, anomalies, and patterns.

Thus, even in the final permit the Region signals that EPA needs more information on entrainment and a great deal of it. In the final permit the Region kept the requirement for a study, like the one in the draft permit, but it added a requirement for cooling towers that makes the study superfluous or at least excessive. Under the now-suspended Phase II Rule, closed-cycle cooling would have made entrainment sampling unnecessary.¹¹

3. The Region’s Requests for Information

Likewise Region 1’s letters requesting information did not give fair notice that closed-cycle cooling was likely to be required. The gist of the Region’s requests was that Mirant Canal must perform a technology assessment and that eleven options should be assessed. A request for general information about a number of intake technologies (cooling towers included) is very different from a request that asks for an analysis of cooling towers specifically. The former is what Region 1 sent to Mirant Canal.

4. Several Alternatives Were Available “at the Time”

The Fact Sheet said, as the Region’s brief says, that the Region was not selecting closed-cycle cooling “at this time.” But it also said that about the *other* alternatives.¹² By listing several alternatives and then stating that each of them was not being selected “at this time,” the Region

¹¹ “Facilities that meet the requirements in § 125.94(a)(1)(i) by reducing their flow commensurate with a closed-cycle, recirculating system are not required to submit a Comprehensive Demonstration Study.” 40 C.F.R. § 125.95(b) (suspended), 69 Fed. Reg. 41,687 col. 2 (July 9, 2004). See also 40 C.F.R. § 125.95(b)(4)(D)(ii)(B) (suspended), requiring a list of parameters to be monitored, but only for alternatives other than closed-cycle cooling.

¹² “EPA does not at this time designate” fine-mesh Ristroph screens. Fact Sheet 42. “EPA does not at this time designate” wedgewire screens. *Id.* 43.

put no one on notice that it would be selecting one of the technologies in the final permit. By the logic of Region 1's brief, Mirant Canal should have provided a detailed analysis of each of the alternatives (at least the eleven in the April 21, 2000 letter) simply to address the possibility that the Region might change its mind about the need for a study and conclude that one of the alternatives was the best technology after all.

In short, the documents and statements cited in Region 1's brief, including the information request letters and Mirant Canal's responses, do not show that the Region provided meaningful notice that the Region would require cooling towers, and Mirant Canal could not reasonably have anticipated that it would. Statements that cooling towers will be evaluated along with other potential technologies cannot be "fair notice," because evaluations of that sort are standard in *every* permit process. If Region 1 had said it was evaluating all the alternatives and would make a decision in the final permit, Mirant Canal would have submitted more detailed comments. But what the Region actually said was altogether different.

Indeed, the Region's letters and Mirant Canal's responses *before* the draft permit, even if they could be construed to reflect a serious evaluation of cooling towers, would be irrelevant to the issue of notice, because the draft permit expressly took cooling towers off the table. In fact, if the discussion of cooling towers *before* the draft permit was issued had been as robust as the Region now suggests, it would make all the more meaningful the fact that, despite that robust discussion of cooling towers, the draft permit still failed to require them.

B. The Mirant Canal Comments Were Designed to Respond to What the Region Was Proposing

That Mirant Canal filed comments on cooling towers "for the sake of argument" only proves our point. Of the 37 pages of Mirant Canal comments, 17 were devoted to intake structures. But only about two pages addressed intake technologies to reduce entrainment. See

Mirant Comments 32-33. Other of the 17 pages were devoted to thermal discharges or impingement. The brevity of the comments on entrainment demonstrates that Mirant Canal had no reasonable expectation that cooling towers would be required by the final permit. In cases where such an expectation exists, the comments and analysis are more detailed.

It is therefore unreasonable for Region 1 to argue that Mirant Canal's brief comments imply that it understood that the final permit might, without further study, impose an entrainment reduction technology that Mirant Canal explicitly opposed, that would cost over \$200 million, and that would threaten the viability of the plant. Given the cost of requiring cooling towers to the company, the brevity of Mirant Canal's comments shows that a cooling tower requirement was not reasonably foreseeable at the time of the draft permit.

In the Brayton Point case, by contrast, Region 1 proposed closed-cycle cooling in the draft permit. See section II.E below. As a result, the permittee was able to file detailed comments. For the Canal Station, the attached paper by the Shaw Group (Exhibit E) illustrates the level of detail that the permittee's comments would have contained if the Region had given the Canal Station the kind of notice it gave Brayton Point.

In short, closed-cycle cooling was never a prominent part of the Canal Station permitting process. The permit went from a proposal to study, gather data, and select a compliance alternative to a requirement for a \$200 million reconstruction of the cooling system. Even if cooling towers were "on the table," in the sense that they were to be evaluated like so many other alternatives, that does not amount to "fair notice" or make the final requirement a "logical outgrowth" of the draft permit.

II. Mirant Canal and the Public Could Not Reasonably Have Anticipated that the Final Permit Would Require Cooling Towers

On the “logical outgrowth” issue, the Region’s argument is that it announced before comments were due that closed-cycle cooling was “on the table” and that Mirant Canal (as well as the Massachusetts Division of Marine Fisheries) actually did comment on it; therefore Mirant Canal should have been on notice.

Mirant Canal agrees with the Region that the legal standard for determining whether a final permit is a “logical outgrowth” of a proposal is notice and foreseeability. But the Region’s arguments do not show that cooling towers were reasonably foreseeable. Even if cooling towers were “on the table,” the Fact Sheet took them off the table by saying that the Region would not require them “at this time” and that Mirant Canal could satisfy the entrainment requirements by selecting, after performing a study, one of the five Phase II Rule compliance options.

The Region’s brief at p. 33 acknowledges that a final permit requirement on which the draft spent “scant attention” is not likely to constitute a “logical outgrowth.” That is the case here, because the draft permit did not identify as a possible outcome that cooling towers might be required and did not reflect the sort of detailed assessment such a requirement would entail. Rather, the thrust of the proposal was to postpone the technology decision until there was enough information to make it. So while cooling towers were “on the table” in one sense, in the more important sense they had been removed from it.

Especially weak is the Region’s argument that the Alden Lab Report showed that Mirant Canal knew cooling towers might be required. Mirant Canal submitted the Alden Lab Report *before* the draft permit was written. Hence the Region had considered the Alden Lab Report

when it made the decision, embodied in the draft permit, to collect more information.¹³ The Region's reaction to the Alden Lab Report was to decide that the evidence so far did *not* justify closed-cycle cooling. As Mirant Canal said in its comments, it had not done a detailed engineering, biological, and cost assessment necessary to select the best technology available. Mirant Canal Comments (Ex. F) 32. And so when, after the comment period, the Region used the very same Alden Lab Report to justify cooling towers, it was doing an unannounced and unforeseeable about-face.¹⁴

A. A Proposal to Gather Information Is Entirely Different from a Proposal (or a Decision) that Available Information Supports a Particular Technology

As noted above, Region 1 proposed a study, not a technology. Region 1 said in its Fact Sheet that it was not prepared to mandate closed-cycle cooling "because of the need to further evaluate its cost as well as the performance capabilities of other significantly less expensive alternatives." EPA Br. 17. The draft permit would have required just such a study, which would have started when the permit was issued and lasted until January 7, 2008. It would have given Mirant Canal the opportunity to evaluate cooling towers after the permit issued.¹⁵ Hence Mirant

¹³ For the draft permit, the Region relied on little more than the Alden Report on pages 40-48 of the Fact Sheet where it addressed the six alternative intake options. After summarizing the Alden Report for several pages, Region 1 concluded "[a]s a result, EPA does not at this time mandate [closed-cycle cooling] as BTA for Canal Station's NPDES Permit." Fact Sheet 44. True, the Fact Sheet went on to caution that closed-cycle cooling "remains open to Canal Station as a potential means of compliance." But that is nothing more than a truism for all plants where there *might* physically be room to install cooling towers. About all the Alden Lab Report said was that "[I]and is available at Canal Station for a cooling tower." Alden Lab Report 4-11. Alden Lab "assumed" that a mechanical draft tower would be installed at the site. *Id.*

The only space potentially available for cooling towers is about 11 acres east of Unit 2. It has not been determined whether towers could in fact be built there.

¹⁴ A tactic referred to by the D.C. Circuit as "the old switcheroo." See EPA Br. 31, citing *Env'tl. Integrity Project v. EPA*, 425 F.3d 992, 996 (D.C. Cir. 2005).

¹⁵ Or else the issuance of the final permit would have to have been delayed past January 7, 2008. According to the draft permit (Ex. 4 at 46), Mirant Canal was to submit its "preliminary selection" of one of the five Phase II alternatives by October 7, 2006, and its final selection by January 7, 2008.

Canal had no reason to believe that, in effect, it had to do the study before the end of the comment period (which would have been impossible in any event).

The state agencies that commented also recognized that more study was needed. Region 1 claims to rely heavily on the comments from these agencies, but of the four agencies that commented, only one expressly mentioned cooling towers.

That one was the Massachusetts Division of Marine Fisheries (January 17, 2006) (AR 176). Its comment letter devotes four sentences to entrainment. One sentence expresses the agency's preference for closed-cycle cooling, but the next sentence endorses the draft permit's approach by stating that "[f]urther evaluation of available technological and/or operational measures is dependent on the Proposal for Information Collection and the Comprehensive Demonstration Study that will be submitted to EPA." So even the Division of Marine Fisheries was counting on the study proposed in the draft permit for "further evaluation." See also AR 178 ("specific information to be included in the CDS is necessary for our agency [the National Marine Fisheries Service] to fully assess the anticipated impacts resulting from the operation of this facility").

B. Mirant Canal's Comments Would Have Been Different Had It Known Cooling Towers Were Being Proposed

Similarly, Mirant Canal's submissions to the Region showed that it took the Region at its word when the Region said it was not proposing cooling towers because more study was needed. The comments a permittee files on a proposed study are far different from its comments on a requirement to spend over \$200 million to rebuild the plant's cooling system.

Thus, Alden's 2003 report was done at only a "conceptual" level,¹⁶ and it said so. See Petition to Review 51. And Mirant Canal reminded Region 1 in its comments that neither Mirant Canal nor Alden Lab had done a detailed assessment. Mirant Canal Comments (Ex. F) 32.

Likewise, Mirant Canal's comments on closed-cycle cooling in 2006 were not detailed. The analysis that would have to be done to determine if cooling towers could be afforded would be more elaborate. For example, the comments that the plant operator filed in the Brayton Point case, where cooling towers were proposed in the draft permit, illustrate the type of analysis done when fair notice is given. See generally *In re Dominion Energy Brayton Point, LLC (Formerly USGen New England, Inc.) Brayton Point Station*, NPDES 03-12, 12 E.A.D. 490 (EAB 2006).

For the Canal Station some of the issues that would have to be explored before designing and installing cooling towers were described in the Petition to Review, pp. 51-75. As discussed there, issues about noise, visual impact, salt drift, fogging and icing, soil conditions, and cost need to be addressed. Many issues have to do with the cost of cooling towers and whether Mirant Canal can afford them. Another set of issues relates to how extensively the plant will have to be redesigned and rebuilt to accommodate cooling towers.

In particular, one issue that has to be analyzed is the possibility of having to redesign the condensers, as the attached Shaw Group paper (Exhibit E) points out. The existing intake structures provide once-through cooling water to the Unit 1 and 2 condensers as well as to the component cooling water system heat exchangers. The condensers' design pressures are 20 psig, which are not adequate for a normal closed-cycle cooling system in which a single pump station, normally located at the cooling tower, pumps cooled circulating water from the tower basins through the condensers and back up to the cooling tower fill distribution systems. This

¹⁶ A "detailed evaluation" was provided in section 4, but based on "conceptual designs." Alden Lab Report 1-1. "General considerations" were used to develop the "conceptual designs." *Id.* 3-1, 4-1.

arrangement would require a design pressure of 70 to 90 psig due to the higher-head pumps required for the entire closed circuit. Reusing the existing condensers would require a multiple-pump arrangement to limit the pressure on the condensers to within their rated capacity. This in turn would raise reliability issues, because there would be more than one pump that could fail and shut down the system.

Replacing or modifying the condensers, on the other hand, would require considering whether to replace or reblade the turbine and possibly whether to replace the existing boilers with combustion turbines. See Exhibit E.

Whether the existing condensers are reused or replaced depends on a detailed economic study, which would have to examine the arrangement of the cooling towers and associated equipment, circulating water pipe pathways, pumping arrangements, temperature rise across the condensers, size of the cooling towers, condition of existing equipment, and other engineering factors. Redesigning the condenser to withstand the increased pressure and reoptimizing the condenser and associated equipment to reduce circulating water flow and minimize the size of the cooling towers could require a change in the design of the condenser, which in turn would probably require changes to the turbine foundation, replacement and rerouting of circulating water pipes in the turbine hall, and a major construction effort, including a long unit outage.

Analyses also have to be done of visual impact (natural-draft cooling towers might be 500 feet high, mechanical draft towers only 100 feet), noise, heat rate penalties, plant energy penalties, soil conditions, plume and salt drift impacts, noise, and traffic effects of construction. Exhibit D lists some of the engineering issues that affect the cost and economic feasibility of cooling towers.

The engineering problems have to be analyzed before the cost of cooling towers can be estimated. As of today, preliminary calculations show that the cost of cooling towers might be \$182.8 million for mechanical draft towers with minimized circulating water flow and \$217.7 million if the present circulating water flow is maintained. See Exhibit D. For natural draft towers the costs are \$183.3 and \$224.5 million respectively, far more than the \$122 million (see Response to Comments IX-35 n.33) that Region 1 considered based on the 2003 Alden conceptual analysis.

C. EAB and Judicial Decisions on “Logical Outgrowth” Have Reopened Records for Less Cause than Exists in This Case

Although the reopening of a comment period on a draft permit is discretionary, the Appeals Board has previously considered changes to draft permits and determined that reopening was warranted. *In re District of Columbia Water and Sewer Authority* (hereinafter WASA), NPDES Appeal Nos. 05-02, 07-10, 07-11, 07-12, 13 E.A.D. ____, slip op. at 62-63, 2008 EPA App. LEXIS 15, *111, citing *In re Indeck-Elwood, LLC*, PSD Appeal No. 03-04, 13 E.A.D. ____, slip op. at 28-29 (EAB, September 27, 2006) (remanding when the permit issuer did not provide an opportunity for public comment on a significant addition to the permit); *In re Amoco Oil Co.*, 4 E.A.D. 954, 981 (EAB 1993) (remanding permit and directing Region to reopen public comment period when Region failed to provide public with opportunity to prepare an adequately informed challenge to a permit change); *In re GSX Servs. of S.C., Inc.*, 4 E.A.D. 451, 467 (EAB 1992) (remanding and directing Region to reopen public comment period when public was not given opportunity to comment on significant permit changes); see also *In re Old Dominion Elec. Corp.*, 3 E.A.D. 779, 797 (Adm’r 1992) (explaining that, despite the discretionary wording of the regulations, “there may be times when a revised permit differs so greatly from the draft version that additional public comment is required . . .”).

One consistent theme running through this Board's decisions in *WASA*, *Indeck-Elwood*, *Amoco*, and *GSX* is that the "significance" of the change between a draft and final permit is important in determining whether to remand for public comment. *WASA*, slip op. at 62; *Indeck-Elwood*, slip op. at 28; *Amoco*, 4 E.A.D. at 981, 1993 EPA App. LEXIS 20, at *64; *GSX*, 4 E.A.D. at 467, 1992 EPA App. LEXIS 77, at *35. The types of "significant" change requiring remand have included removing a provision requiring compliance with water quality standards, *WASA*, slip op. at 49; adding a provision allowing a lower-capacity facility to be built, *Indeck-Elwood*, slip op. at 24; adding a provision requiring the permittee to conduct a risk assessment procedure, *Amoco*, 4 E.A.D. at 979, 1993 EPA App. LEXIS 20, at *60; and adding facility location standards. *GSX*, 4 E.A.D. at 465, 1992 EPA App. LEXIS 77, at *32.

The "significance" of the change in this case could not be greater. The change at issue threatens the very viability of the Canal Station. Moreover, it is notable that the Region's brief does not even contest – because it cannot – that the change in the final permit was significant. The Region's own Response to Comments in several places described the change as "significant."

Also influencing this Board's determination in ordering a remand is the extent to which the change from the draft to the final permit would increase the "potential costs of compliance to the permittee." *Amoco*, 4 E.A.D. at 981, 1993 EPA App. LEXIS 20, at *64. In *Amoco*, this Board was troubled by the fact that the final permit's requirement to perform a risk assessment was not only significant, but would also increase the permittee's costs. *Id.* While the *Amoco* decision did not specify the cost of a risk assessment, it was surely far less than the \$200 million cost that the Region has imposed on Mirant Canal.

This Board has also previously addressed a situation in which the law changed during an appeal. In *GSX*, the petitioner challenged a final permit that Region 4 issued under the Hazardous and Solid Waste Amendments. *GSX*, 4 E.A.D. at 452, 1992 EPA App. LEXIS 77, at *2. The final permit was issued in the summer of 1989. 4 E.A.D. at 452. In January 1992, before this Board issued its decision, EPA promulgated new regulations affecting certain appealed provisions. *Id.* at *465. This Board remanded the permit “so that the Region can reevaluate the disputed conditions in light of these new requirements, and, where appropriate, modify the permit accordingly.” *Id.* Moreover, this Board stated that the “Region must also reopen the public comment period to allow interested parties an opportunity to comment” on the application of these new provisions to the permittee. *Id.* The brevity of the *GSX* decision suggests that it is almost self-evident that, when permit provisions are potentially affected by a change in law, public comment is required on the extent of the impact.

Finally, the *WASA* decision is especially relevant to the Mirant Canal appeal because the Board in *WASA* rejected the same argument the Region is making here about an issue’s being “on the table.” *WASA*, slip op. at 60. The first draft permit in *WASA*, issued in January 2003, restricted the permittee from discharging any pollutant “at a level that causes or contributes to” an excursion above water quality standards. *Id.* at 51. The Region then modified this provision, among others, and re-issued another draft permit in March 2004. *Id.* at 52. In December 2004 the Region issued yet another draft permit with, once again, a different provision regarding compliance with water quality standards. *Id.* at 54. Petitioner objected to this new provision and appealed to this Board. In response, the Region withdrew the provision from the permit and gave notice it would issue a new draft permit addressing the withdrawn provision. *Id.*

In August 2006, the Region issued the new draft permit with yet another provision concerning compliance with water quality standards. *Id.* at 55. Finally, in April 2007, the Region issued the final permit, which, unlike prior drafts, eliminated any requirement that the discharge be subject to the applicable water quality standards. *Id.* at 58.

Petitioner then appealed the final provision. The Region argued to this Board that petitioner had had an opportunity to submit comments on the applicability of the water quality standards and that the issue of how this provision was to be drafted had been “on the table.” *Id.* at 60. But what was determinative for this Board (beyond the “significance” of the change) was not the fact that the issue was generally on the table, but rather that the Region had given no indication during the permitting process that it was considering removing the provision requiring compliance with the water quality standards from the permit. *Id.* at 64-65. The lesson from WASA, then, is that an issue must be more than “on the table” to meet the “reasonably foreseen” test. The Region’s specific change on the issue must be apparent.

The Region’s change in course in Mirant Canal’s case was in no way sufficiently apparent. The Region issued its draft permit as BPJ. The pre-permit communications focused on the gathering of data and information about impingement and entrainment and intake technologies. The draft permit then proposed that BPJ required further study before Mirant Canal could select a compliance option. The commenters agreed. And up until the issuance of the final permit, there was no indication from the Region that the final permit would select any specific intake technology as BTA, let alone a standard based on cooling towers.

The case law also shows that “paradigm shifts” from proposed to final rules are grounds for reopening. In *Citizens for Better Forestry v. U.S. Dept. of Agric.*, 481 F. Supp. 2d 1059 (N.D. Cal. 2007), petitioners challenged the United States Department of Agriculture’s

(“USDA”) changes from a 2002 proposed rule to a 2005 final rule. After extensive notice and comment from interested parties, the USDA issued a proposed rule in 2002 that promulgated and improved on a nationwide schematic for wildlife, forest, and resource management. 481 F. Supp. 2d at 1059, 1065. The period from 2002 to 2005 saw significant revision to this plan, including ongoing notice and comment as well as issuance of interim and interpretive rules. *Id.* at 1065-68.

In 2005 the USDA issued a final rule drastically different from the 2002 proposed rule, in that the final rule excluded several key provisions. *Id.* at 1067-68. After a challenge from several environmental and conservation groups, the court held that the USDA had violated the Administrative Procedure Act (APA) because the changes in the 2005 rule were not a logical outgrowth of the notice and comment associated with the rule. *Id.* at 1076.

In reaching this conclusion, the *Citizens* court reasoned that “where an agency’s change in position from a proposed rule is ‘not foreshadowed in proposals and comments advanced during the rulemaking,’ [the change] will not be considered a ‘logical outgrowth’ because it may catch interested parties by surprise.” *Id.* at 1073. The court endorsed the plaintiffs’ argument that vague “general direction” language in the preamble to the earlier rule was not sufficient notice of the 2005 rule’s dramatically new course. *Id.* at 1075. Rejecting the USDA’s defense that the 2005 rule merely simplified the earlier rule, the court noted that changes like removing key provisions represented an impermissible “paradigm shift.” *Id.* at 1076. Because such “surprise” is anathema to the cooperative dialogue contemplated by the APA’s notice-and-comment provisions, the court found that the USDA erred in overhauling the 2002 proposed rule with insufficient comment. *Id.*

In Mirant Canal's case, Region 1 used the same type of diametric shift in the permitting process that the *Citizens* court found unacceptable. Here, instead of taking away key provisions, the Region added a new provision by effectively making closed-cycle cooling a requirement. Just as the preamble language in the earlier rule in *Citizens* did not warn interested parties of coming changes, the Region here gave no signal, in its draft permit, its Fact Sheet, or its communications with Mirant Canal, that closed-cycle cooling would become a mandate. In fact, the Region gave every indication that it would *not* insist on closed-cycle cooling by noting the expense involved and the need to conduct further studies on this and other technologies. Like the petitioners in *Citizens*, the Region's final permit left Mirant Canal surprised when the Region turned precatory suggestions into mandatory instructions. Thus, the Board should find that the Region's about-face from draft to final permit does not represent a logical outgrowth of the draft permit. *See also AFL-CIO v. Donovan*, 757 F.2d 330, 339 (D.C. Cir. 1985) (no "logical outgrowth" where no notice was given of change from draft to final rule); *Chocolate Mfrs. Assn. v. Block*, 755 F.2d 1098, 1106 (4th Cir. 1985) (parties were given no notice before Secretary of Agriculture removed chocolate milk from school lunch program); *American Standard, Inc. v. United States*, 602 F.2d 256, 267-69 (Ct. Cl. 1979) (APA notice-and-comment procedures were not followed where IRS did an about-face and did not explain final rule).

The cases cited in the Region's brief actually support Mirant Canal's position on reopening rather than the Region's. *American Med. Ass'n v. United States*, 887 F.2d 760 (7th Cir. 1989), found that the IRS had not violated the Administrative Procedure Act's notice requirement because "[t]he allocation rules finally adopted were not a wholly new approach to the issue of dues allocation. Instead, the final rule was 'contained' in the proposed version, and merely eliminated some of the alternative calculation methods specified" *Id.* at 769. A

change from the proposed regulations to the final regulations is appropriate “so long as [the final regulation is] generally consistent with the tenor of its original proposals,” *id.* at 767, and “courts have held on numerous occasions that notice is inadequate where an issue was only addressed in the most general terms in the initial proposal” *Id.* at 768.

In Mirant Canal’s case, a switch from proposing that Mirant Canal gather data and select one of five alternatives to requiring cooling towers is a “wholly new approach,” and the change cannot be described as “generally consistent with the tenor of [the Region’s] prior proposal.” The tenor of the draft permit was that the Region would *not* be selecting any specific intake technology and that additional study was needed after the permit was issued. Under *American Medical Ass’n*, it is not enough merely to put an issue “on the table”; it must also be clear that the issue was to “be addressed by a final rule.” But nothing in the Canal Station Fact Sheet or draft permit put Mirant Canal on notice that closed-cycle cooling was to be addressed by the final permit. The draft permit proposed a study. The commenters agreed with this approach. There was no suggestion during the comment period that the Region would withdraw its proposal for a study and make a specific “best technology available” determination instead.

In *Long Island Care at Home, Ltd. v. Coke*, 127 S.Ct. 2339 (2007), a final Department of Labor regulation exempted *all* home care workers, whereas the proposed regulation would have exempted only some. *Id.* at 2351. The court held that expanding the exemption from the proposed to the final rule was reasonably foreseeable. *Id.* But in that case the proposed exemption could have changed in only two possible ways, by expanding or contracting. In Mirant Canal’s case, the outcome of the proposed study could have taken infinite shapes – at least as many as there are intake technologies (including “operational” alternatives like shutting down pumps).

NRDC v. U.S. EPA, 279 F.3d 1180 (9th Cir. 2002), on the other hand, was a case in which EPA erred by making a change without adequate notice. EPA proposed a general NPDES permit for log transfer facilities in Alaska, including allowance for a “zone of deposit” where water quality standards could be exceeded. *Id.* at 1184. The draft permit allowed a zone of deposit of one acre based on interim guidelines that had been issued by the State of Alaska. Alaska notified EPA that it supported changing the zone of deposit from one acre to an area based on the “project area.” *Id.* at 1185. This requested change was not made available for public comment but was included in the final permit. *Id.* The Ninth Circuit held that EPA should have given notice and solicited additional comments. The public could not have “reasonably anticipated” that the final permit would contain a requirement that was inconsistent with the law applicable at the time the draft was issued. *Id.*

Similarly, the draft Canal Station permit contained a study provision based on the Phase II Rule, which was in effect at the time. After the rule was suspended, there was no opportunity to comment before the final permit changed the study to a requirement for cooling towers.

The *NRDC* court rejected the same sort of argument Region 1 is making here. EPA argued that the public had adequate notice that the one-acre definition might change because the draft permit indicated that some exceptions could occur to the definition. The court explained why this type of argument is not persuasive: “nuance and subtlety are not virtues in agency notice practice. If the EPA were contemplating approving entirely new constructs for allowable zones of deposit and departing from the [prior] guidelines, it should have said so explicitly.” *Id.* at 1188. Given the draft permit’s reliance on the guidelines, there was “no doubt that there was a

fundamental policy shift, rather than a natural drafting evolution, between the draft permit and the final permit.” *Id.*

The same observation applies here. Region 1’s decision to abandon its proposal for further study and to require cooling towers instead constitutes a “fundamental policy shift,” not a “natural drafting evolution.” Remember that Region 1 said in the Fact Sheet that, *even if* the Phase II Rule were to be made ineffective in the future, the proposed study would still be a “proper BPJ-based foundation for its § 316(b) requirements.” Fact Sheet (Ex. 3) 27.

The *NRDC* court noted that “[t]he fact that interested parties did not anticipate the paradigm shift from the draft to the final permit is underscored by the contents of the instant petition for review, which raises for the first time numerous issues” about the new zone of deposit definition in the final permit. *Id.* The court explained that “[t]hese are precisely the type of comments that should have been directed in the first instance to the EPA, but which understandably were not because of the inadequate notice.” *Id.* Likewise, *Mirant Canal* in its Petition for Review raised issues that would have been raised in comments, rather than on appeal, if there had been adequate notice.

In *Small Refiner Lead Phase-Down Task Force v. U.S. EPA*, 705 F.2d 506 (D.C. Cir. 1983), the court vacated parts of an EPA regulation because EPA had not provided sufficient notice of changes between the proposed regulation and the final one. *Id.* at 543, 548-49. The court explained that when “the final rule deviates too sharply from the proposal, affected parties will be deprived of notice and an opportunity to respond to the proposal.” *Id.* at 547.

The court found adequate notice, on the other hand, for a different provision that closed a loophole in coverage. *Id.* at 547-48. For that provision, notice had been adequate because the petitioner had been on notice that EPA was considering closing certain loopholes. *Id.* at 548.

Also, it was likely that the petitioner was aware of the specific change because it was proposed by another party during the public comment hearing. *Id.*

Other cases cited by Region 1 as examples of adequate notice are different from Mirant Canal's case. In *Career College Ass'n v. Riley*, 74 F.3d 1265, 1276 (D.C. Cir. 1996), the final regulation changed the definition of "week of instruction" from any week with one day of class to any week with five days of instruction or examinations. *Id.* at 1275-76. The agency had specifically requested comments on whether weekly minimum workload requirements should be imposed, thereby flagging the very issue (abuse of the week-based standard) that prompted the change from the draft to the final regulation. *Id.* at 1276. In *Arizona Pub. Serv. Co. v. EPA*, 211 F.3d 1280 (D.C. Cir. 2000), *cert. denied*, 532 U.S. 970 (2001), the change in the final regulation was deleting a single item (the right of judicial review) from a list of elements a tribal permit program was required to have. *Id.* at 1299-1300.

There was nothing like this kind of notice in Mirant Canal's case. The draft permit was focused on a study requirement, while the final permit required a costly rebuilding of the plant's cooling system. And Region 1 did not request comment on the court decision or the suspension of the rule that prompted the change to cooling towers.

D. Using a Draft Permit to "Defer" a Decision Is an Abuse of the Administrative Process

The Region suggests that the draft permit "deferred" selection of a specific best technology available for reducing entrainment. EPA Br. 24. It is true that the draft permit proposed a study before the choice of best technology could be made. But the study would have required time beyond when the final permit issued. What the Region's brief now implies is that the draft permit was deferring the selection only *until the final permit was issued*.

However, nothing in the draft permit or Fact Sheet suggests that the selection of the intake technology was being deferred to the date of the final permit.¹⁷ The Region's suggestion that the draft permit or Fact Sheet expressly deferred a specific decision seems to be a *post hoc* explanation to explain the Region's changed approach after the draft permit was issued. This revisionist history suggests that the draft permit was not a "proposal" at all, merely an announcement that the Region was thinking over its options and wanted information about all of them. But that is not how the Region presented the matter in the draft permit and Fact Sheet.

In one sense the Region did "defer" its decision, not just to the final permit but to an administrative order to come after. Response to Comments (Ex. 2) IX-8. Speculating that Mirant Canal may be able to discover some alternative technology, the Region offers to negotiate a compliance schedule by which such alternatives can be explored and then decided on. Using an administrative order in this fashion is another example of trying to make a significant permit decision without proposing it for public comment first.

E. Brayton Point Illustrates Fair Notice of a Closed-Cycle Cooling Requirement

The Region's reliance on the Brayton Point proceeding undercuts its argument that the Mirant Canal comment period was adequate, because cooling towers were required by the *draft* permit for Brayton Point. Consequently, the Brayton Point permittee had the opportunity to address cooling tower issues in detail, and the level of analysis and consideration of costs were significantly more thorough for Brayton Point than for the Canal Station.

The Brayton Point permittee submitted its NPDES renewal permit application on January 15, 1998. *In re Dominion Energy Brayton Point, L.L.C. (Formerly USGen New England, Inc.)*

¹⁷ EPA stated that it was "not presently prepared to mandate closed-cycle technology . . . because of the need to further evaluate its cost as well as the performance capabilities of other significantly less expensive alternatives." Fact Sheet 46. But this clearly referred to the study to be done after the final permit issued, not to a decision made without adequate data when issuing the final permit.

Brayton Point Station, NPDES 03-12, 12 E.A.D. 490, 503, 2006 EPA App. LEXIS 9, *34 (EAB February 1, 2006). On July 22, 2002, Region 1 issued the draft permit (12 E.A.D. at 503), which essentially required closed-cycle cooling for the entire station. *Id.* at 504. No doubt recognizing the magnitude of its proposal, Region 1 extended the comment period to 75 days, apparently at the permittee's request. *Id.* The Region held two formal public hearings to receive oral comments on the draft permit and public informational meetings as well. The Region also accepted several late submissions from the permittee. *Id.* The final permit was issued October 6, 2003. *Id.*

This difference alone underscores how nothing in the Canal Station draft permit would have put Mirant Canal (or the public) on notice that a comprehensive analysis was expected by the Region at the time. Moreover, as discussed in the *NRDC* case quoted above and cited approvingly by the Region, permit decisions do not present the Region with an opportunity to hide the ball – if the Region expects comments on a certain issue, it has an obligation to flag that issue for affected parties during the comment period. If the draft permit had given fair notice, Mirant Canal would have submitted the same level of analysis as the permittee did for Brayton Point. If anything, Mirant Canal's analysis would have been more painstaking than Brayton Point's, because cooling towers at Canal Station are likely to make the plant uneconomical.

Surprisingly, the final Brayton Point permit was issued at about the time Mirant Canal submitted the Alden Report, in October 2003. So even after its recent experience providing an ample comment period for Brayton Point and selecting closed-cycle cooling there in both the draft and final permits, Region 1 considered the Alden Report and concluded, for the draft Canal Station permit, that it would not require cooling towers. Region 1's contrasting treatment of Brayton Point could hardly have been more misleading to Mirant Canal and the public.

III. The Region's Change in Approach During the Permitting Process Raised "Substantial New Questions" (40 C.F.R. §§ 122.43(b)(1) & 124.14(b)(3))

Requiring cooling towers without the cost and effectiveness analysis the Region originally thought necessary raises "substantial new questions" as to the grounds for the Region's determination. See 40 C.F.R. § 124.14(b)(3). The Fact Sheet for the draft permit explained how cost and performance are critical issues that need to be analyzed before requiring a new intake structure to reduce entrainment. But the final permit changed course and imposed requirements without such an analysis. The Region's change, sometime after the draft permit was published, raised "substantial new questions," including the following:

- What, exactly, was added to the record that enabled the Region to select closed-cycle cooling, whereas at the time of the draft permit it lacked enough data to make the decision?
- Why did the Second Circuit's decision that costs may not be compared to benefits change the Region's decision from needing more data to choosing closed-cycle cooling?
- Should the Region have conformed its judgment to the Second Circuit decision when (1) that decision is being reviewed by the Supreme Court, (2) EPA Headquarters believes it was wrongly decided, and (3) EPA Headquarters asserts it is "in tension with" a First Circuit decision that should control in Region 1?
- If the Second Circuit decision is nevertheless to control, how do its "cost-effectiveness test" and "reasonably borne" test apply to the Canal Station?
- How does the suspension of the Phase II Rule affect the Canal Station "best technology available" decision? How does the change from performance standards of 80-95% reduction in impingement mortality and 60-90% reduction in entrainment to "best professional judgment" affect the decision for the Canal Station?
- What does "BPJ" mean in light of the suspension of the Phase II Rule? Before the rule, BPJ decisions were made for some 30 years based on the statute and a 1977 draft guidance document. During the period when the Phase II Rule was in effect, BPJ should have been guided by the 80-95% and 60-90% national performance standards. After the rule was suspended pending remand, how should "BPJ" be applied? Should BPJ return to the same basis as before the rule was promulgated? If BPJ is to be guided by only the statute § 316(b) (and possibly the 1977 guidance) – that is, on the same basis as before the Phase II Rule existed – why did "BPJ" produce such a radically different result from the decision before the rule was promulgated?

- What effect did the Brayton Point decision have on the Region's decision for the Canal Station, and shouldn't the differences between Brayton Point and the Canal Station have been explored?
- In light of the Second Circuit's recognition that "energy efficiency" is a permissible consideration (475 F.3d at 100), should not Region 1 have assessed the impact on electric supply if Mirant Canal were required to close because of the burden of the closed-cycle cooling requirement? Those in New England who rely on a reliable electric supply or who manage or regulate power should be given the opportunity to comment on this impact.

Also, 40 C.F.R. § 122.43(b)(1) allows the Region to reopen a permit proceeding where new requirements become effective during the permitting process and "are of sufficient magnitude to make additional proceedings desirable." See EPA Br. 38, 41. In this case, the Second Circuit decision and the suspension of the Phase II Rule changed the legal standards that had guided the Region's "best professional judgment."

If a change in the requirement the Region originally proposed, accompanied by a change in the legal standards governing the Region's reasoning process, does not raise "substantial new questions," then it is hard to imagine anything that does. Not only was a new determination made, it was made without relying on the study that the Region previously judged to be necessary. As the Board said in the *WASA* decision (discussed above in section II.C), it considers "changes to draft permits on a case-by-case basis and, *depending on the significance of the change*, may determine that reopening the comment period is warranted." *WASA*, slip op. at 62 (emphasis added); *see also Indeck-Elwood*, slip op. at 30. Thus there is a substantial new question, namely how the record that the Region previously recognized was inadequate somehow became adequate to support a closed-cycle cooling requirement during and after the comment period.

The Region suggests that it merely added new information to the record and conducted analyses in response to public comments. But the Region actually made an entirely new

determination *without* completing the analysis it previously had recognized was needed. Moreover, the Region's conclusory statements that it "added" new information after the comment period are misleading. The Region did not perform any substantive analysis like what it had previously recognized was necessary before selecting BTA, and the index to the administrative record demonstrates that nothing new was added or done with respect to the BTA determination after the comment period closed. Without itself performing the necessary studies and without allowing interested parties to submit their own detailed comments, the Region used a flawed process.

Region 1 correctly points out that a substantial new question can arise under 40 C.F.R. § 124.14 in two circumstances. One is when the law changes before the final permit is issued. The second is when conditions change after the public comment period closed. Contrary to what the Region argues, both circumstances are present here.

A. Changed Legal Requirements: The Phase II Rule Was Suspended

The Region argues that it applied "best professional judgment" throughout the permit process. But the Region's record shows that the best professional judgment was changed considerably by the *Riverkeeper* decision and the suspension of the Phase II Rule.

1. The Decision Changed from Information-Gathering to Installing a Particular Technology

Region 1 says that the law did not change, because it was "BPJ" all along. But it admits that its first "BPJ" decision was guided by the Phase II Rule and that the second one was not. The Fact Sheet said "this determination of limits under CWA § 316(b)'s BTA requirement for the Canal Station permit is based on EPA's site-specific, Best Professional Judgment (BPJ), *consistent with 40 C.F.R. § 125.95(a)(2)(ii) of the new Phase II CWA § 316(b) Regulations.*" Fact Sheet (Ex. 3) 45 (emphasis added).

Region 1 explains its switch from information-gathering to closed-cycle cooling at IX-21

of the Response to Comments:

At present, however, these considerations no longer militate against determining that closed-cycle cooling is the BTA at Canal Station. The Phase II Rule and its provisions regarding site-specific performance standards, restoration programs, and information gathering and submission are no longer in effect. Moreover, the *Riverkeeper II* decision presently precludes a BPJ-based BTA decision based on either a comparison of the cost of a technology with its benefits or the use of restoration programs as BTA measures. Thus, the *Riverkeeper II* decision and the suspension of the Rule has clarified the prior uncertainties and resolved the potential inequities raised by the facts of this case under the Rule. While the Supreme Court will be reviewing the cost/benefit issue in the future, as explained above, EPA is presently abiding by the Second Circuit's decision. As a result, it makes sense to replace the Draft Permit's entrainment-related requirements – which focused only on requiring compliance with the Phase II Rule's information submission requirements and implementing the resulting BTA determination – with the Final Permit's intake limits based on closed cycle-cooling as the BTA at Canal Station.

(Footnote omitted). This says very clearly that the suspension of the Phase II Rule removed the barrier to selecting closed-cycle cooling.

According to the Region's own explanation, then, two things that changed – after the comment period – were the Second Circuit's decision on cost-benefit analysis and the suspension of the Phase II Rule. For the final permit, EPA was “abiding by the Second Circuit's decision.”

Response to Comments IX-21.

The effect of these two regulatory changes was profound. Before them, the Region proposed a study as prescribed by the Phase II Rule; after them, the Region required closed-cycle cooling. Nothing else of importance seems to have changed, since for the factual analysis the Region relied on the 2003 Alden Report for both the draft and final decisions.

Oddly enough, applying the best professional judgment to the same § 316(b) standard produced three entirely different results at different times. From 1972 to 2005, “BPJ” meant

once-through cooling. After December 22, 2005 (the date of the draft permit), “BPJ” meant a detailed study. After the Second Circuit decision, “BPJ” meant closed-cycle cooling.¹⁸

What did the Second Circuit decision and suspension of the Phase II Rule change that constituted significant new requirements? First, the suspension of the rule eliminated, for a time at least, the rule’s performance standards. Second, the Second Circuit decision changed the ground rules, at least in that circuit,¹⁹ for considering costs and benefits.

To put it another way, why could Region 1 not have decided on cooling towers at the draft permit stage, just as it did for the final permit, and put the proposal out for comment? At the draft permit stage, it was construing the same statute as at the final permit stage, and it used its best professional judgment both times. It even had the Brayton Point precedent at the draft stage (though not the Appeals Board decisions in the Brayton Point case). As for the facts, at the time of the draft permit the Region had already, with its information request letters, asked Mirant Canal to assess 11 options, and it had the 2003 Alden Lab Report as a result. But at the time of the draft permit the Region still believed a study was needed.

After that the Region’s whole approach, and its decisional framework, changed to the point where the study was abandoned and a technology selected. And it changed not because of comments received (after all, the commenters supported the study) but because of legal

¹⁸ From a national perspective, in contrast, EPA has maintained for over 30 years its view that closed-cycle cooling is *not* best technology available as a categorical standard. And as EPA pointed out in the Phase II rulemaking, only rarely in this country have cooling towers been retrofitted to existing plants. 69 Fed. Reg. 41,606 col. 1 (July 9, 2004) (“EPA believes that it is significant that so few existing facilities retrofitted [cooling towers in the past 20 years]. The rarity of this technology as a retrofit further indicates that it is not economically practicable for the vast majority of existing facilities”).

¹⁹ “At least in the Second Circuit, however, [permitting authorities] will no longer be able to consider the relationship between costs and benefits.” Brief for the Federal Respondents in Opposition, *Entergy Corp. et al. v. EPA et al.*, Nos. 07-588 *et al.* at 15 (March 2008).

developments – the Second Circuit decision and the suspension of the Phase II Rule. The Region offered no opportunity to comment on these developments.

2. The Performance Standards Were Suspended

One of the factors changed by the suspension of the Phase II Rule was the legal standard for interpreting § 316(b) and selecting “best technology available.” The Phase II Rule set national performance standards of reducing impingement mortality 80-95% and entrainment 60-90%. Presumably “best professional judgment” *while the Phase II Rule* was in effect would have been guided by the numerical performance standards. Indeed, the Comprehensive Demonstration Study required by the rule was designed to show that these standards were met, and the study proposed by the draft permit was aimed at the same objective.

As soon as the rule was suspended, however, Region 1 applied “best professional judgment” again but with different results. What effect did the suspension of the rule have on Region 1’s exercise of “best professional judgment”? Since the facts (principally the 2003 Alden Lab Report) were the same before and after, the statute was the same, and (according to Region 1) “BPJ” was the same, what explains the different outcome? It may be that the explanation is that being freed from the 80-95% and 60-90% performance standards enabled the Region to change its mind. It may be that suspension of the *information-gathering* requirements²⁰ of the Phase II Rule enabled the Region to decide based on information it had previously judged insufficient. Either way, a substantial new question is raised about the meaning of “BPJ” when regulatory standards have abruptly changed.

The Appeals Board can play an important role in seeing that resort to “judgment” not be used to justify arbitrary decisions. “Best professional judgment” is not a legal standard; it means

²⁰ “Furthermore, because the Rule’s information gathering requirements and schedule are no longer in effect, they no longer provide a basis for the Draft Permit’s conditions in that regard.” Fact Sheet (Ex. 3) IX-20.

nothing unless it is guided by (1) evidence and (2) legal standards. Here the evidence (principally the Alden Lab Report) did not change but the legal standard did. “Substantial new questions” about the effect of that change are still unanswered.

3. The Second Circuit Decision Created Uncertainty About How Costs and Benefits Should Be Considered

What the Second Circuit decision changed most was the use of costs and benefits. EPA has consistently said that “best technology available” contemplates the best technology available commercially at an economically practicable cost. 81 Fed. Reg. 17,387 col. 1 (April 26, 1976). Also, the Phase II Rule allowed best technology available to be set site-specifically so that the costs would not be “significantly greater than” the benefits.

The Second Circuit held that EPA may not compare costs and benefits and may consider cost only by a “reasonably borne” and a “cost-effectiveness” test. Had Mirant Canal been able to complete the study called for by the draft permit, it could have addressed whether the costs of closed-cycle cooling were significantly greater than the benefits.²¹ Had it been allowed to comment on the effect of the Second Circuit decision, it could have addressed the legal issues involved, which are now before the Supreme Court. But Mirant Canal had no opportunity to do this.

Region 1 should have taken comments on the effect of the Second Circuit decision, because its effect, especially for power plants in the First Circuit, is not self-evident. In the first place, the Second Circuit decision is “in tension with”²² the First Circuit decision *Seacoast Anti-*

²¹ Mirant Canal did make the point that the cost of cooling towers was self-evidently significantly greater than the benefits, “even without detailed cost-benefit analysis.” Mirant Canal Comments (Ex. F) 33.

²² The government noted that the First Circuit upheld EPA’s rejection of an alternative on the ground that its costs were wholly disproportionate to its benefits and that this legal standard cannot be squared with the Second Circuit’s decision in *Riverkeeper II*. Brief for the Federal Respondents in Opposition, *Entergy Corp. et al. v. EPA et al.*, Nos. 07-588 *et al.* 14 (March 2008)

Pollution League v. Costle, 597 F. 2d 306 (1st Cir. 1979), which affirmed an EPA decision rejecting an intake technology alternative because the costs would have been “wholly disproportionate to the benefits.” Brief for the Federal Respondents in Opposition, *Entergy Corp. et al. v. EPA et al.*, Nos. 07-588 *et al.* 13 (March 2008). Region 1, which is in the First Circuit, should follow First Circuit precedent if it is in tension with the Second Circuit.

In the second place, EPA and the Solicitor General are arguing to the U.S. Supreme Court that the Second Circuit decision was wrong and should be reversed. See Brief for the Federal Parties as Respondents Supporting Petitioners, *Entergy Corp. et al. v. EPA et al.*, Nos. 07-588 *et al.* (July 2008). Since Region 1 made its final permit decision consistent with the Second Circuit decision that EPA Headquarters says is wrong, there is clearly a substantial new question that should have been subjected to comment.

In the third place, even on its face the Second Circuit decision, with its complex scheme of disallowing cost-benefit analysis but allowing “cost-effectiveness analysis” and analysis of whether the costs of a technology can be “reasonably borne,” requires explication, as is shown by the hundreds of pages of briefs that have been filed by parties and *amici curiae* in the Supreme Court case.

The effect of the Second Circuit decision on costs and benefits on the choice of intake technology for Mirant Canal should have been explored in comments. Clearly Region 1 relied to some extent on costs in the Fact Sheet. The Region did not choose “Alternative 5” (reducing intake flow 60% by reducing pump capacity) because it would have had a cost similar to or greater than closed-cycle cooling and would have reduced entrainment and impingement mortality less. Fact Sheet 43-44. At the same time the Region also rejected closed-cycle cooling, which it thought would reduce flow 72-98% at a cost of \$108 million. Fact Sheet 44.

(With updated information, today, we believe cooling towers would cost much more – \$182.8 million or more.) The Region even used the “significantly greater” words from the Phase II Rule (Fact Sheet 44), though it used them to compare the costs of different technologies rather than costs to benefits. How the Second Circuit decision changed the Region’s cost analysis is a significant new question.

The Region said that the Second Circuit decision and the suspension of the Phase II Rule “clarified the prior uncertainties and resolved the potential inequities raised by the facts of this case under the Rule.” Response to Comments (Ex. 2) IX-21. But EPA and the Department of Justice said in their recent brief to the Supreme Court that “the legal framework followed for more than 30 years has provided for EPA and state permitting authorities to consider the relationship between costs and benefits. . . .” Brief for the Federal Parties as Respondents Supporting Petitioners, *Entergy Corp. et al. v. EPA et al.*, Nos. 07-588 *et al.* at 27 (July 2008). It is the 30-year framework that the Second Circuit overturned, by turning “normal rules of statutory construction and *Chevron* deference on their head.” *Id.* at 30. How could such a decision possibly have “resolved uncertainties”? How could suspending the Phase II Rule have “resolved uncertainties” when it returned the decision framework – BPJ decisions based on § 316(b) – back to where it was before the Phase II Rule? That was the decisional framework that authorized once-through cooling at the Canal Station from the 1970s through early 2008.

Yet Region 1 did not ask for comments on the implications of these two significant legal changes. The Region’s new approach should have been subjected to public comment.

4. Region 1 Mistakenly Asserts that Mirant Canal Itself Found Closed-Cycle Cooling Technologically and Economically Feasible

Region 1 asserts that Mirant Canal itself deemed closed-cycle cooling both “technologically feasible” and “economically practicable” for Canal Station. EPA Br. 24, citing

the Region's Response to Comments at IX-20, -21, -27, -29, -34, and -36. It also says that Mirant Canal deemed closed-cycle cooling to be "feasible." EPA Br. 14, citing Alden Report at 3-6, 3-8, 4-11, 6-1 to 6-2.

The Region's position is hard to square with page 32 of Mirant Canal's comments on the Draft Permit:

We also note that for none of these technologies had Mirant Canal performed the kind of detailed engineering, biological, *and cost assessment* necessary to select among options for purposes of the Phase II Rule, or to determine whether an alternative performance standard is appropriate for this site.

Mirant Canal Comments (Ex. F) 32. Moreover, we have checked the 11 references cited by Region 1 and summarized them in Exhibit A to this brief. Neither of them contains a suggestion by Mirant Canal or Alden Lab that cooling towers are economically practicable for the Canal Station.

In fact, Mirant Canal (supported by Alden Lab's work) maintains that cooling towers are expensive and difficult to engineer. They might be feasible in an engineering sense. But Mirant Canal never advised Region 1 that they were "economically practicable."

Mirant Canal opposed closed-cycle cooling in both its response to the Region's information requests and its comments. Region 1 addressed the "economic practicability" question for the first time in the Response to Comments, but none of the Region's citations supports the idea that Mirant Canal agreed.²³

²³ We have done our own search for a statement in the administrative record where Mirant Canal might have conceded that cooling towers are affordable, but we have not found one. The closest direct discussion of the unreasonable expense of cooling towers is in the cover letter of October 23, 2003 (AR 58) to the response to EPA's April 30, 2003 request for information (AR 8):

[B]ased on the relative high cost of alternative intake technologies in comparison to the small benefits, the existing cooling water intake structure should be considered Best Technology Available.

As for the Alden Lab Report, it was a response to requests for information, not a comment on any proposal by the Region. Mirant Canal's response to the Region's requests for information specifically argued *against* cooling towers. Moreover, even with the Alden Lab Report in hand, in December 2004 the Region issued a § 308 request asking for further studies that would not be due until 2008, and in the 2005 draft permit the Region proposed only to require those studies. It proposed the studies even though, as the Region's brief concedes at p. 18 n.8, under the transition provision of the Phase II Rule it was not bound to do so.

To be sure, Mirant Canal's comments did address cooling towers, but in a way that the Region's brief obscures. The thrust of Mirant Canal's comments on cooling towers was both that they were not warranted *and* that, before they could be required, more detailed studies were needed. Those comments clearly were framed by the fact that the draft permit had proposed a study and did not identify cooling towers as a possible outcome at this stage.

The Region implies that it applied principles from the Phase II Rule to the draft permit only out of "equitable" considerations because, even though the Region was not required to apply the Phase II Rule, it would have been unfair to impose permit conditions inconsistent with the Rule. The same equitable considerations still exist today: it would be just as inequitable to require a \$200 million plant reconstruction without adequate notice, especially when its benefits are grossly outweighed by its costs and the applicable law on precisely this major issue (i.e., the impact of cost in the best professional judgment determination) is in flux and under review by the Supreme Court.

AR 58 at 2. The accompanying Alden Lab Report provided cost estimates without addressing affordability. See Ex. 7.

B. Changed Conditions

Besides the legal changes summarized above, factual circumstances have changed as well, and they should have been explored through the comment process.²⁴ The public comment period is intended, in part, to narrow areas of disagreement so that appeals to the EAB are as focused as possible. By foreclosing meaningful comment on such a significant issue as cooling towers, the Region is unnecessarily burdening the EAB with the task of sorting out, in the first instance, substantial issues.

The Region's brief at p. 42 notes that the Board's decision in the WASA case "emphasized" that it reviews § 124.14(b) issues "depending on the significance of the changed permit conditions." But the Region's brief makes nothing of this language, and it is impossible

²⁴ There is a substantial body of law disapproving an agency's reliance on out-of-date information. See *Sierra Club v. Costle*, 657 F.2d 298, 398 (D.C. Cir. 1981) (observing that, if documents of central importance on which EPA intended to rely had been entered on the docket too late for meaningful comment prior to promulgation of a rule, both the structure and spirit of § 307 of the Clean Air Act would have been violated); *id.* at 395 (if the documents were important enough, the requirement of *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974), might call for an extension of the comment period or even for proposal of an amended rule). Under the Administrative Procedure Act an agency may use data that were unavailable during the notice and comment period, so long as they are not critical to the agency's determination and there is no showing of prejudice. *Chamber of Commerce of the United States v. SEC*, 443 F.3d 890 (D.C. Cir. 2006); *Citizens for Better Forestry v. U.S. Dep't of Agric.*, 481 F. Supp.2d 1059 (D. Cal. 2007); *Ober v. U.S. EPA*, 84 F.3d 304 (9th Cir. 1996). When an agency simply reconsiders information it relied on in promulgating a proposed rule, without considering recent additional information, a question of staleness attaches. *W. Watersheds Project v. Foss*, 2006 U.S. Dist. LEXIS 73577 (D. Idaho Oct. 4, 2006). For NEPA, the Council on Environmental Quality (CEQ) Guidelines require a supplemental environmental impact statement (EIS) when the agency makes substantial changes in the proposed action that are relevant to environmental concerns; when there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; or when the agency determines that the purposes of NEPA will be furthered by doing so. 40 C.F.R. § 1502.9[c] (available at <http://ceq.hss.doe.gov/nepa/regs/ceq/1502.htm>). The function of a supplemental EIS is to maintain a transparent record of the information supporting a lead agency's decision. The CEQ regulations defining NEPA's purpose state that "NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken" (40 C.F.R. § 1500.1[b]). See also 40 C.F.R. § 1506.3 (<http://www.nepa.gov/nepa/regs/ceq/1506.htm>) and response to question 30 at <http://www.nepa.gov/nepa/regs/40/30-40.HTM>). The Federal Energy Regulatory Commission ("FERC") updates the rate of return on equity ("ROE") to take into account changes in the financial markets that occur after the record in a proceeding has been closed. See, e.g., *Golden Spread Electric Cooperative, Inc. v. Southwestern Public Service Co.*, 123 F.E.R.C. P61047 at ¶¶56, 65 (2008); *Bangor Hydro-Elec. Co. v. FERC*, 122 F.E.R.C. P61265 ¶30 (2008); *City of Vernon, California*, 111 F.E.R.C. P61092 ¶109, *reh'g denied*, 112 F.E.R.C. P61207 (2005); *Jersey Central Power & Light Co.*, 77 F.E.R.C. P61001, P61009 (1996), *Southwestern Public Service Co v. FERC.*, 53 F.E.R.C. P61084, P61240 (1990), *remanded on other grounds*, 952 F.2d 555 (D.C. Cir. 1992). FERC has explained that where enough time has passed, it updates the ROE to ensure that it is as accurate as possible. *Bangor Hydro-Elec. Co.*, 122 F.E.R.C. P61265 ¶30 (2008).

to argue that the change from a study of alternatives to a requirement to install one of them (at a cost of hundreds of millions of dollars) was not “significant.” Indeed, the Region said in the Response to Comments that the permit was “significantly revised.” Response to Comments IX-1.

One harm in making a decision without seeking important information is that it increases the issues an appellate body must hear. See *Indeck-Elwood*, slip op. at 29. The three purposes of notice requirements are to ensure that agency regulations are tested by exposure to diverse public comment, to ensure fairness and an opportunity to be heard, and to enhance judicial review. *Building Indus. Ass’n v. Babbitt*, 979 F. Supp. 893 (D.D.C. 1997), *aff’d*, 247 F.3d 1241 (D.C. Cir. 2001), *cert. denied*, 534 U.S. 1108 (2002) (emphasis added). If the Region had used a more robust comment process, it might well have avoided creating issues for appeal.

1. Canal Station’s Changing Capacity Utilization Should Have Been Considered

The 2003 Alden Lab Report said “Canal Station nearly always has a unit operating. Unit 1 cycles in load from about 200 MW_{net} to 560 MW_{net} and Unit 2 cycles from about 60 MW_{net} to 560 MW_{net} as needed by the distribution system grid.” Alden Lab Report (Ex. 7) 4-10.

Nevertheless, Region 1 concluded that operation at full output was a “substantial overestimate” because Canal Station had already significantly reduced its generation. Response to Comments (Ex. 2) IX-34; see also *id.* IX-36. Thus, the Region judged that future operation would be materially less than in the past. But it ignored this development in considering whether the cost of cooling towers is feasible for this plant.

a. Canal Station Has Operated at a Lower Capacity in Recent Years

Region 1 was correct that Canal Station has been operating at a lower capacity recently than in 2003 when Alden Lab noted that the Station almost always had a unit operating. Publicly available capacity factors show the decrease in the Station's utilization.

Mirant Corporation's 2007 Form 10-K at 31 reports that the 2007 net capacity factor for the Canal Station was only 23%. (This is the average production as a percentage of the potential net dependable capacity used over a year.) The Energy Information Administration reports the following approximate²⁵ annual capacity factors for the Canal Station as a percentage of nameplate capacity, showing a sharp drop from 2005 to 2006:

2002	47.5%
2003	47.1%
2004	56.0%
2005	50.4%
2006	17.0%

In the Response to Comments, Region 1 relied on the lower recent capacity factors to show that the cost of retrofitting would be lower than expected because the outage while cooling towers were built would not be so costly:

. . . the Alden report itself indicates the facility had typically been operating at a 48 percent capacity factor, *see* Alden Report at 2-2 and 2-6. Furthermore, as discussed both above and below (see discussion of energy effects), more recent information indicates that the facility operated at an approximately 20 percent capacity factor in 2006 and may operate even less in the future.

²⁵ These are only approximate and should be used, according to the EIA, only as a "general point of reference." They are derived from the EIA-906/920 and EIA-860 database files at www.eia.doe.gov/cneaf/electricity/page/eia906_920.html and www.eia.doe.gov/cneaf/electricity/page/eia860.html.

Response to Comments 1X-36. Yet Region 1 did not ask for comments on how future capacity factors might affect whether, as the Second Circuit's decision put it, the costs of retrofitting cooling towers could be "reasonably borne."²⁶

b. A New Transmission Line May Further Reduce Canal Station's Operation

Canal Station's operations may be lower still in the future. In April 2008 the Massachusetts Department of Public Utilities (MDPU) approved a request from another utility (NSTAR) for new transmission equipment in southeastern Massachusetts (MDPU 2008). This upgrade is intended to import electricity. See Petition for Review 66-71.

As a result of the new transmission line, the Canal Station will probably reduce its operations. Once operational, the new transmission line will reduce (but not completely eliminate) the need for a supplemental commitment from the Canal Station (Sullivan 2007; MDPU 2008; Patton and LeeVanSchaick 2008). For example, ISO New England estimates, based on current information about generation and load, that the Canal Station will operate about 50 days a year once the approved upgrades are complete (Kowalski 2008). This reduction in generation will reduce earnings from the Canal Station.

c. Lower Capacity May Make the Canal Station Unable to Bear the Cost of Cooling Towers

Reduced generation at Canal Station will affect the assessment of best available technology in at least two ways. First, lower capacity means lower intake flow over time and thus less environmental impact. Second, the plant becomes less profitable and therefore less able to bear the cost of cooling towers.

²⁶ The Second Circuit said reasonably borne "by the industry." 475 F. 3d at 99. But that was in the context of reviewing an industrywide regulation. Exactly how the Second Circuit's "reasonably borne" test applies to an individual plant (if it applies at all in the First Circuit) is one of the "significant new questions" raised by the Second Circuit decision.

In its annual report (2007), Mirant Canal's corporate parent, Mirant Corporation, discusses the impact of environmental regulations on plant operation decisions: "To comply with these legal requirements and the terms of our operating permits, we must spend significant sums We may be required to shutdown facilities if we are unable to comply with the requirements, or if we determine the expenditures required to comply are uneconomic" (p. 25).

Mirant Corporation participates in an ongoing research program of the Electric Power Research Institute on retrofitting cooling towers. Thus Mirant Corporation has continued to explore closed-cycle cooling. One part of this EPRI research focuses on whether power plants can bear the cost of retrofits. The interim results are that a fair number of older, low-capacity facilities (like the Canal Station) could not bear the cost of retrofitting and would have to close.

Thus, the lower capacity factor affects the assessment of "best technology available" in several ways. First, less operation reduces the environmental impact of once-through cooling and thus reduces the "benefit" of closed-cycle cooling. On the cost side, the possibility of the plant's having to close and the impact of that on electric supply means that (using the Second Circuit's words) Mirant Canal may not be able to "reasonably bear" the cost. Finally, if the test approved by the First Circuit of rejecting an alternative if its cost is "wholly disproportionate to" its benefits is applied, the results are affected by the lower benefit and higher cost of cooling towers.

Region 1 should have reopened the comment period to consider the effect of lower capacity and rising costs on the viability of the Canal Station²⁷ and its ability to bear the cost of cooling towers.

²⁷ A new report from the Department of Energy, based on a white paper by the North American Electric Reliability Corporation, examines the impacts on electricity reliability of requiring existing steam generators using once-through cooling systems to replace those systems with closed-cycle cooling towers. The report concludes:

2. Costs Have Risen

As Mirant Canal said in its Petition for Review, the costs of steel, concrete, and fuel have increased. Petition for Review 54-55. Cooling towers require steel and concrete, and they have grown more expensive since 2006. The rise in the capital costs required to retrofit cooling towers to the Canal Station since the comment period closed should have been explored.

The projected cost of retrofitting today is on the order of \$200 million. See Exhibit D. Whether the increase is due to the more detailed nature of the Shaw Group estimate in Exhibit D (compared to the “conceptual” analysis by Alden Lab) or whether rising costs played a role, there is ample reason to reopen the record for additional comments.

Likewise, the rising price of fuel oil makes the electricity produced by the Canal Station more expensive, causing it to be dispatched less. As a result, the Canal Station is less economic, and Mirant Canal has a reduced ability to fund capital improvements.

That costs are rising is public knowledge; a court could take judicial notice at least of the general trend in the costs of fuel and construction materials. The effects of rising costs should be considered before a decision is made that closed-cycle cooling is justified for Canal Station.

3. The Brayton Point Decision Came at the Very End of the Comment Period

The Brayton Point NPDES permit was issued in October 2003. The Appeal Board’s decision in the Brayton Point case came out February 1, 2006, three days before the end of the

Based on the best available data, the loss of generation capacity due to reduced operational efficiency in combination with the early retirement of facilities that either cannot or choose not to retrofit may jeopardize the ability of California, New York, and New England to meet peak demand for electricity. In addition, one could reasonably expect that the capacity margin reduction would further aggravate transmission congestion in the Mid-Atlantic Area National Interest Electric Transmission Corridor.

U.S. Department of Energy, *Electricity Reliability Impacts of a Mandatory Cooling Tower Rule for Existing Steam Generation Units* i (October 2008), http://www.oe.energy.gov/DocumentsandMedia/Cooling_Tower_Report.pdf.

Canal Station comment period. Before that, the discussion of the intake structure in the 2005 Fact Sheet for the Mirant Canal draft permit did not mention Brayton Point. See Fact Sheet 24-48. But at the final permit stage, the Response to Comments cited Brayton Point 20 times. Petition for Review 7. Moreover, at some point Region 1 put its Brayton Point Response to Comments in the Canal Station record as AR 296.

There was no opportunity to comment on Brayton Point, but there should have been in light of its prominence in the Region's explanation of the Canal Station final permit. Once the Region decided, after the comment period, to rely so heavily on the very different facility at Brayton Point, it should have taken comments on the differences.

Moreover, as noted above, Brayton Point illustrates the difference between proposing closed-cycle cooling for comment, so that the record can be developed, and this case, where closed-cycle cooling was selected only at the end of the permit process.

4. Summary as to Changed Legal Standards and Changed Facts

In short, after the comment period ended, two things changed: both the Region's proposed decision (from detailed study to installing cooling towers) and the basis for the decision (from "BPJ" consistent with the Phase II Rule to "BPJ" freed of the study requirements, the performance standards, and the cost-benefit provision of the Phase II Rule). The changed basis for the decision was not factual but legal, namely the Second Circuit decision and the suspension of the Phase II Rule, and both developments occurred after the comment period closed. Meanwhile, Mirant Canal's capacity factor was dropping, lessening its ability to bear the cost of cooling towers. There could hardly be a clearer case of "substantial new questions" arising after the comment period.

IV. Region 1's Other Reason for Not Reopening the Record Is Not Persuasive

As an additional reason for not reopening the record, the Region cites the need for haste. It says it was concerned about the ongoing adverse effects of Canal Station's water withdrawals. There are two reasons this reason does not work.

First, the Region administratively continued this permit for 14 years. If it was concerned about the effects of the plant's water withdrawals, it could have found a way to shorten the process without curtailing public comment.

Second, the environmental impact of the Canal Station has grown less over time. The Region's brief mentions that the Station withdraws 518 million gallons of water a day. EPA Br. 3. But that is the maximum the plant is allowed. The Station's lower capacity utilization in recent years suggests that withdrawals of water and therefore environmental impact are also lower.²⁸ The Region acknowledged the reduced operation, as discussed above, but passed up the opportunity to gather further information.

Moreover, the Fact Sheet said that "[t]here is no evidence to suggest that stocks [of fish] are in worse condition than the regional stocks." 2005 Fact Sheet 32. Apparently nothing in the comments changed the Region's opinion about this.

In short, the Region's concern over the environmental impact of the Canal Station seems to be unsupported by the record. Again, reopening the comment period would have allowed the record to be developed on Canal Station's current level of operations and its current environmental impact.

²⁸ One cannot assume, from lower generation, a pro rata reduction in water withdrawal, because some of the pumps may have to be kept operating even when the plant is not generating electric power. But the effect of lower capacity factors on environmental impact, like its effect on the plant's ability to bear the cost of cooling towers, should have been opened for comment.

V. Conclusion

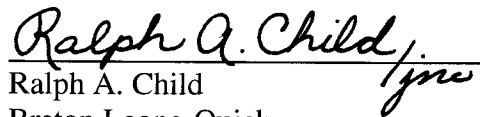
In short, the final requirement to engineer and construct cooling towers at the Canal Station, at a cost now estimated at about \$200 million, is not a “logical outgrowth” of a proposal to study alternative intake technologies (including cooling towers) to develop the data needed to make a decision. Moreover, the Second Circuit decision in 2007, which changed the ground rules for considering costs and benefits, and the suspension of the Phase II Rule (and thus the standards that had guided the Region’s proposal for a study) were important legal developments that occurred only *after* the comment period. The Region’s new approach (requiring cooling towers instead of gathering necessary data), the changes in the law, and changes in the costs and benefits raised substantial new questions that should have prompted the Region to ask for more comments.

In these circumstances, it was an abuse of discretion not to seek additional comments. Mirant Canal requests that the Appeals Board remand this matter with instructions to Region 1 to repropose a draft permit for public comment.

Respectfully submitted,

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Dated: October 30, 2008

EXHIBITS TO THIS BRIEF

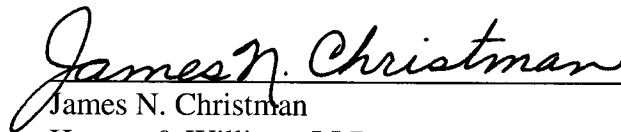
- Ex. A – Region 1's Support for Mirant Canal's Finding of Feasibility/Practicability
- Ex. B – Letter of October 7, 2008, from Town of Sandwich, Massachusetts
- Ex. C – Letter of September 24, 2008 from Town of Sandwich, Massachusetts
- Ex. D – Capital and Operating Cost Impacts
- Ex. E – Summary of Shaw Identified Engineering Issues Retrofitting Cooling Towers at Canal Station
- Ex. F – Mirant Canal's comments on draft permit (AR 190)
- Ex. G – Letter from Mirant Canal to EPA Region 1 dated October 29, 2003 (AR 58)

CERTIFICATE OF SERVICE

I hereby certify a copy of the foregoing Permittee Mirant Canal, LLC's Reply to EPA Region 1's Brief on its Failure to Seek Comment on Significant Changes in the Final Permit was served by Federal Express on the following this 30th day of October, 2008.

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