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January 29, 2009

Mr. Stephen S. Perkins
Office of Ecosystem Protection
United States Environmental Protection Agency - Region 1
One Congress Street, Suite 1100
Boston, MA 02114-2023

RE: Mirant Canal Station, Sandwich, Massachusetts
Renoticed NPDES Permit No. MA 0004928

Dear Mr. Perkins:

The Utility Water Act Group (UWAG) submits these comments on the renoticed NPDES permit for the Mirant Canal Station (the "Station") in Sandwich, Massachusetts, Permit No. MA 0004928. UWAG is a voluntary, *ad hoc*, non-profit unincorporated group of over 200 energy companies and three national trade associations of energy companies. UWAG has an interest in the permit for the Canal Station because it would require closed-cycle cooling for an existing station based on a method of analysis that we believe raises issues of national importance.

1. When § 316(b) Requirements Are Set on a Site-Specific, "Best Professional Judgment" Basis, "Adverse Environmental Impact" and the Point at Which Adverse Environmental Impact Is "Minimized" Also Must Be Determined Site-Specifically, by Reference to Local Ecosystem Characteristics

In the Fact Sheet accompanying the 2005 Draft Permit for Mirant Canal Station, Region 1 undertook to assess the extent to which impingement mortality and entrainment caused by the Station's cooling water intake structure caused "adverse environmental impact to the local ecosystem." Fact Sheet, p. 30. UWAG agrees that such an assessment was appropriate, given that the Region was making a site-specific decision based on its "best professional judgment" ("BPJ"). As discussed in greater detail below, EPA guidance and policy have long called for such an assessment when § 316(b) is implemented case-by-case.

Unfortunately, the Region's evaluation for the 2008 final permit made no attempt to put the intake-induced losses of individual aquatic organisms into any meaningful ecological context. Instead, Region 1 simply summarized the available impingement and entrainment data

and concluded that the number of individual losses is "substantial" (Fact Sheet, p.36), without any consideration of their relative impact on the ecosystem.

As long as EPA's Phase II § 316(b) rule – which set national performance standards for reduction of impingement mortality and entrainment by existing power plants such as Canal – remained in effect (as it was when the draft permit for Canal was issued), this omission might have been viewed as relatively insignificant. This is the case because the Phase II rule itself ostensibly guided the Region's development of at least some of the § 316(b) requirements for Canal, even though those requirements were imposed on a site-specific, BPJ basis, pending the completion of studies required by the rule. EPA's nationally applicable Phase II rule did not require each permit writer to make a site-specific assessment of whether the level of impingement and entrainment mortality had an adverse impact on the local ecosystem. As EPA explained in the preamble to the Phase II rule, it decided against requiring such a site-specific assessment for several reasons, including (1) its desire to adopt a more uniform national standard in order to reduce the administrative burdens and costs associated with site-specific decision-making, (2) its concern that requiring site-specific assessment of adverse environmental impact would be incompatible with a national standard, and (3) its inclusion of an alternative allowing site-specific standards based on a comparison of costs and benefits, which the Agency included as a surrogate for a threshold assessment of adverse environmental impact at each site. *See* 69 Fed. Reg. 41,607-608 (July 9, 2004).

As Region 1 recognizes, now that the Phase II rule has been suspended, no uniform national rule applies, and regional and state permit writers must continue their longstanding practice of applying § 316(b) on a site-specific basis, as Region 1 has done in issuing previous NPDES permits for Mirant Canal Station. Response to Public Comments for Mirant Canal Station ("Canal RTC"), pp. IX-7 - IX-8. In light of the Phase II rule's suspension, and the corresponding reversion to site-specific § 316(b) determinations, EPA's stated reasons for avoiding a meaningful site-specific evaluation of the extent to which impingement and entrainment mortality by an existing plant have caused or are likely to cause adverse environmental impact no longer remain valid. Yet the Canal RTC contains no indications that Region 1 has made any further attempt to evaluate the extent to which impingement and entrainment from the Station are causing or are likely to cause meaningful "adverse environmental impact" or to explain why such an assessment is not required.

Although the Response to Comments for the Mirant Canal Station permit does not discuss this issue, Region 1's response to comments on the permit for another Mirant facility, Mirant Kendall Station, also in Massachusetts, may provide some insight into the Region's thinking. There, Region 1 said that it was relying on the approach EPA Headquarters took in promulgating the Phase I rule (for new facilities) and the Phase II rule, based on which it chose

to treat all impingement mortality and entrainment as "adverse environmental impact" and, on that basis, declined to make any assessment of whether the impact of that power station is "*de minimis*." *See* Response to Comments, Mirant Kendall Station, NPDES Permit No. MA0004898 - Modification, pp. 2-3 - 2-4. As Region 1 put it, "[w]hether or not EPA is legally bound for this BPJ-based permit by its prior determinations on this point for the Phase I and Phase II Rules, EPA [*i.e.*, Region 1] affirmatively embraces those determinations and the reasons for them in this permit action." *Id.*

As noted above, however, the reasons EPA Headquarters gave for establishing *national* rules that require no site-specific assessment of "adverse environmental impact" are no longer valid, nor is the Region's "embracing" of those principles here, without any independent justification, warranted. This is especially the case given that the position Region 1 appears to be taking is inconsistent with EPA's longstanding guidance for making BPJ § 316(b) determinations.

EPA's draft 1977 guidance for evaluating the adverse impact of cooling water intake structures explained the site-specific nature of adverse environmental impact:

> The exact point at which adverse aquatic impact occurs at any given plant site or water body segment is highly speculative and can only be estimated on a case-by-case basis by considering the species involved, magnitude of the losses, years of intake operation remaining, ability to reduce losses, etc.

[Draft] Guidance for Evaluating the Adverse Impact of Cooling Water Intake Structures on the Aquatic Environment: Section 316(b) P.L. 92-500 at 11 (May 1, 1977). Thus, even a large-volume intake in an area of high biological value may have only a minimal adverse environmental impact where, despite high biological value and high cooling water flow, involvement of the biota is low or survival of those involved is high, and subsequent reduction of populations is minimal. *Id.* at 12. This guidance suggests that a variety of metrics of "impact," considered together, may provide insight on when adverse environmental impact exists and needs to be reduced.

UWAG believes there is no significant disagreement with the proposition that there is, for each site, some level of entrainment and impingement that does not require further "minimization." Certainly the environmental groups in the Supreme Court review of EPA's Phase II rule agree that nothing in the plain meaning of § 316(b) compels EPA to establish its BTA standards as precise single number limitations without any flexibility or margin of error:

> Just as in other legal contexts, there can be *de minimis* differences. And, the Agency has some discretion (albeit not boundless) to determine that further differences in reduction would be so minor as to be unnecessary for compliance with the minimizing requirement.

Brief for Respondents Riverkeeper, Inc., et al., *Entergy Corp. v. EPA*, Nos. 07-588, at 29 (September 2008). The Riverkeeper brief agrees with UWAG's statement that minimizing adverse environmental impact is "indisputably broad enough to authorize EPA … to decide at what point [impacts] have been minimized." *Id.*

Thus, UWAG urges Region 1 to reconsider its position on this point and to use the available data to make a reasoned, site-specific evaluation of "adverse environmental impact" in issuing or renewing NPDES permits for facilities under its jurisdiction. The loss of fish eggs and larvae to entrainment at the Canal Station, which does not currently operate full-time, may well be so small that § 316(b) simply does not require it to be reduced. Inasmuch as the principal change in circumstances since previous § 316(b) determinations for this plant (in the 2005 draft permit and previous permits) seems to be a lessening of impingement and entrainment, Region 1 would need to explain what changes warrant a change in the permit, especially such a drastic change as converting the Canal Station to closed-cycle cooling.

As best we can tell, Region 1's reasoning for the closed-cycle requirement is this: The Canal Station impinges and entrains some organisms; entrainment must be reduced; closed-cycle cooling reduces entrainment as much as or more than any other technology (save dry cooling); and, therefore, closed-cycle cooling (or something that reduces entrainment to a "comparable" extent) must be installed. Part I.A.9.g.(ii) of the Canal Station permit appears to refer to closed-cycle cooling as a "standard." As the Canal RTC says, the final permit "includes a performance standard for entrainment reduction that may be met with either cooling towers or any other technology … that is capable of being implemented and achieving comparable performance." Response to Comments at IX-32.

Beyond the reasoning outlined above, Region 1's basis for requiring the standard of closed-cycle cooling is a qualitative, subjective explanation that the factors weighing *against* cooling towers (energy penalties, air pollution) do not change the Region's conclusion. Region 1 has not adequately explained why these energy and environmental factors, which weigh against cooling towers, along with the minor impact of the Station on the aquatic ecosystem, require a change to closed-cycle cooling at a facility that until now has been in compliance with § 316(b).

UWAG believes the Region's rationale for requiring closed-cycle cooling is different from a site-specific, evidence-based assessment of the statutory factors. The same reasoning could be used to justify cooling towers at any facility, no matter what the site conditions, so long as (1) there was some entrainment and (2) there was room, physically, to build cooling towers.

Thus, UWAG believes the Region's analysis is contrary to EPA's directive to select best technology available on a site-specific "best professional judgment" basis. Instead, the Region appears to have established a rule-of-thumb setting closed-cycle cooling as the "standard" for BTA wherever it is physically possible. We urge Region 1 to abandon this approach and instead to evaluate this facility following EPA's draft 1977 guidance as described above.

2. Under Current Law, Region 1 Should Conclude that the Costs of Closed-Cycle Cooling Are "Wholly Disproportionate" to the Benefits

Whatever the outcome of the Supreme Court's review of *Riverkeeper, Inc. v. U.S. EPA*, 475 F.3d 83 (2d Cir. 2007), the costs of intake technology play a part in determining "best technology available." As the Second Circuit said of the § 316(b) rule, the statutory language suggests that EPA may consider costs in determining BTA, in that a technology that has costs that cannot be reasonably borne by the industry is not "available" in any meaningful sense. 475 F.3d at 99. The Second Circuit would allow EPA to consider whether the costs of an intake technology can be "reasonably borne" and to engage in "cost-effectiveness analysis."

Moreover, the First Circuit Court of Appeals, whose rulings should apply in EPA Region 1, affirmed a decision not to require a particular change in intake technology the costs of which were "wholly disproportionate" to the benefits. *Seacoast Anti-Pollution League v. Costle*, 597 F.2d 306, 311 (1st Cir. 1979). At least until the Supreme Court rules, that First Circuit precedent should apply in Massachusetts. Under the *Seacoast* standard, the cost of retrofitting cooling towers to an existing facility is likely to be wholly disproportionate to the benefits. Region 1 needs to evaluate the costs and benefits, taking into account cost and impact data supplied by the facility owner. It would not be appropriate to focus on impingement mortality and entrainment "costs" while dismissing other costs and benefits with only superficial analysis.

Region 1 surely will want to take into account the Supreme Court decision, expected soon, before making a final decision on intake technology for the Canal Station. When the Supreme Court decision does come out, the Region should accept public comments on what the Court's decision means for the Canal Station permit.

3. The Affordability of an Intake Technology Should Be Assessed at the Facility Level

An issue has arisen in both the Kendall and Canal Station proceedings over whether the Region may look at the financial resources of the parent corporation rather than the profitability of the permitted facility itself. At Kendall, Region 1 has said that it can look at the resources of the parent because that is what is done in penalizing violations of the Clean Water Act. The Region also felt it did not have enough facility-specific financial data for Kendall to assess affordability on a facility level.

The analysis may be different for the Canal Station, based on plant-specific information that the owner supplies. The financial impact on the facility is the important consideration, in UWAG's view, rather than the impact on the parent company. The parent's ability to pay is considered in assessing penalties because one of the goals is to deter future violations. The analysis of ability to "reasonably bear" the cost of technology is altogether different. In determining "best technology available," the issue is whether the cost of the technology is so great as to make operation of the facility no longer viable. It is part of the assessment of whether the technology is "available" and "feasible" (that is, economically feasible).

UWAG believes that a requirement that existing generating stations be retrofitted with closed-cycle cooling, if imposed as a standard either in Region 1 or elsewhere, would have serious adverse impacts on electric power supply, as at least two recent government studies show. A significant number of power plants would not be able to afford cooling towers and would have to close. See North American Electric Reliability Corp., *2008 Long-Term Reliability Assessment* at 29-31 (October 2008), http://www.nerc.com/files/LTRA2008.pdf; U.S. Department of Energy Office of Electricity Delivery & Energy Reliability, *Electric Reliability Impacts of a Mandatory Cooling Tower Rule for Existing Steam Electric Units* (October 2008), http://www.oe.energy.gov/DocumentsandMedia/Cooling_Tower_Report.pdf.

4. Nonaquatic Adverse Environmental Impacts and Energy Impacts May Tip the Balance Against an Intake Technology or Against Closed-Cycle Cooling

Again, there is no disagreement, even among parties to the Supreme Court case, that EPA should consider nonaquatic environmental impacts when assessing an intake technology under § 316(b) of the Clean Water Act. This follows from the standard in the statute, which is to minimize not entrainment or impingement, not aquatic environmental impact, but "adverse environmental impact." It would be contrary to the statute to require an intake technology that reduces entrainment of eggs and larvae while doing even more harm to the environment by air pollution or noise. No party involved in the Supreme Court litigation, including the

environmental groups, doubts that EPA can consider nonaquatic environmental impacts in selecting "best technology available." UWAG trusts the Region will consider the environmental impacts of air pollution, noise, and other nonaquatic impacts on a par with losses of fish when deciding whether "adverse environmental impact" has been minimized at the Canal Station.

Yours very truly,

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