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U.S. Environmental Protection Agency

Water Docket

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1200 Pennsylvania Ave., NW

Washington, DC 20460

RE: Comments of the Large Public Power Council on EPA's Proposed Standards for Cooling Water Intake Structures at Existing Facilities and Phase I Facilities ("Section 316(b) Standards"), 76 Fed. Reg. 22,174 (Apr. 20, 2011), Docket ID No. EPA-HQ-OW-2008-0667

Dear Sir or Madam:

The Large Public Power Council (LPPC) appreciates the opportunity to submit the following comments on the Environmental Protection Agency's (EPA) proposed Clean Water Act (CWA) section 316(b) standards for cooling water intake structures at existing facilities.¹ LPPC is an association of 24 of the nation's largest locally owned, not-for-profit electric power systems, whose members provide reliable, affordable electricity to most of the 45 million customers in 11 states and Puerto Rico served by public power. Our members own and operate approximately 34,000 circuit miles of transmission lines and over 75,000 megawatts of generation, reflecting a balanced portfolio of renewable energy, fossil fuel, nuclear, hydropower, and other resources. Virtually all LPPC members own or operate facilities that will be affected by the proposed section 316(b) standards, and have decades of expertise in designing and implementing cooling water intake structures that are protective of aquatic wildlife and compliant with requirements established by local permitting authorities.

¹ National Pollutant Discharge Elimination System—Cooling Water Intake Structures at Existing Facilities and Phase I Facilities, 76 Fed. Reg. 22,174 (Apr. 20, 2011).

LPPC is generally supportive of EPA's approach to the proposed section 316(b) standards. EPA's conclusion that closed-cycle cooling systems are not "best technology available" (BTA) at all existing facilities throughout the country is reasonable. It would be infeasible to require closed-cycle cooling on a uniform national basis, and LPPC is pleased that the EPA has also come to this conclusion.

LPPC members have significant experience assisting local permitting authorities in site-specific determinations of BTA, and know that this approach has provided a functional method of addressing the protection of aquatic life since section 316(b) was enacted almost four decades ago. Site-by-site analysis allows for a diverse range of considerations to be appropriately weighed in determining entrainment standards for intake structures, and is therefore a preferred method of regulation. Indeed, LPPC would support the wider use of site-specific analysis in the proposed 316(b) rule.

The design and implementation of the section 316(b) proposed rule does raise certain questions and concerns. LPPC requests that EPA reconsider some aspects of its proposed rule, including:

- **Applicability threshold.** The EPA has decided to use the actual intake flow (AIF) rather than the design intake flow (DIF) to establish 316(b) applicability. However, EPA's analysis of "Option 4" clearly shows that a higher applicability threshold (corresponding to the coverage that could be achieved through a 50 million gallon per day (MGD) DIF threshold) is warranted.
- **BTA Analysis for Facilities with Closed-Cycle Cooling.** Facilities that employ closed-cycle cooling are not exempt from BTA analysis for entrainment, and potentially could be required to implement additional control technology. EPA should clarify that facilities which have or implement closed-cycle cooling are fully compliant with the section 316(b) standards for entrainment, and are thus excused from further BTA analysis.
- **Lack of waivers or site-specific considerations in impingement standards.** When the costs of meeting the proposed impingement requirements are excessive in relation to the benefits, local permitting authorities should have the discretion to modify or waive such standards. EPA adopted a similar approach in the Phase I standards and in the original Phase II standards for existing facilities, and includes such discretion in the proposed rule with regard to entrainment. In the final rule, the EPA should specify such discretion also exists for impingement.

- **Crediting of Retirements at New Units.** Under the proposed rule, flow reductions in connection with unit retirements will only be credited for a period of ten years following the construction of a new unit at an existing facility. Choosing to give unit retirements less credit than other means of achieving flow reductions is arbitrary and unreasonable. In addition, once the ten-year crediting period is over, it is uncertain how such units would be regulated.
- **Deadlines.** The proposed deadlines do not provide electric utilities with adequate time to fully prepare their submissions of studies and other information.

LPPC SUPPORTS KEY ELEMENTS OF THE PROPOSED STANDARDS

Although there are important areas in which the proposed standards must be improved, LPPC supports the general structure of the proposed section 316(b) rule. With our suggested changes as noted below, the proposed standards can provide a viable framework for a regulatory program that adequately protects aquatic wildlife while recognizing the economic, engineering, and environmental constraints that apply to individual electric generating facilities around the country

In particular, LPPC supports three key design elements of the proposed section 316(b) standards: the decision not to designate closed-cycle cooling systems as a nationwide “best technology available” (BTA); the choice not to treat existing facilities undergoing repowering or replacement as “new units” for purposes of the proposed rule; and the decision to rely on site-specific determinations of BTA for entrainment. Below, we explain why it is essential that EPA retain these three elements when finalizing the section 316(b) standards.

1. Closed-Cycle Cooling Is Not BTA.

LPPC supports the EPA’s determination closed-cycle cooling is not an appropriate Best Technology Available (BTA) standard nationwide. With regard to entrainment in particular, the EPA stated that it “could identify no single technology that represented BTA for all facilities”² and further explained that it made such a finding because different facility types have diverse needs and requirements regarding “local energy reliability, air emissions permits, land availability, and remaining useful plant life.”³ LPPC commends EPA for assessing a wide range

² 76 Fed. Reg. at 22,197.

³ *Id.*

of factors and reasonably concluding that electric generating facilities are too varied to support a single nationwide closed-cycle standard.

Furthermore, EPA rightly decided that individual BTA determinations should be based on balancing a number of factors, including not only water quality impacts but also implementation costs, other environmental impacts, energy reliability effects, and other environmental benefits.⁴ LPPC agrees that such factors represent the right mix of issues that must be evaluated in determining BTA. In addition, it is beneficial for local permitting authorities to be engaged in making such determinations of BTA because they have the best understanding of the array of local issues that should be taken into account when determining BTA.

LPPC members have significant experience in installing and operating closed-cycle cooling technology. Such experience has shown us that while closed-cycle cooling will reduce withdrawals of cooling water, such systems also have large disadvantages in terms of cost, energy and space requirements, and reductions in local air quality. Closed-cycle cooling therefore has important shortcomings that must be considered in determining BTA. Permitting authorities should have the discretion to weigh both the economic, energy, and environmental advantages *and* disadvantages of closed-cycle cooling with regard to each permitting decision, as provided for in the proposed section 316(b) standards.

2. Repowering or Replacement of Existing Facilities Should Not be Treated as New Units.

LPPC urges EPA to retain its proposed definition of a “new unit”—which excludes replacement and repowered units—in the final section 316(b) standards. In the Preamble to the proposed rule, EPA correctly recognizes that newly constructed *additional* facilities may have a greater ability to implement impingement and entrainment technologies (namely, closed-cycle cooling) than existing facilities. New facilities often have the ability to select suitable locations and site configurations for closed-cycle cooling, as well as to deploy efficient facility and cooling system equipment that minimize the energy and non-water quality environmental impacts of closed-cycle cooling. The installation of closed-cycle cooling at a new facility is also less disruptive than at an existing facility, which must shut down for significant periods in order to retrofit the cooling system—causing increased costs and impairing the reliability of the local power system.

⁴ 76 Fed. Reg. at 22,178-79.

For most facilities, the same constraints that can be seen at an existing unit apply with equal force to units that are undergoing repowering or replacement. Repowering and replacement activities involve limited re-configuration of existing facilities and do not create opportunities for wholesale replacement of cooling systems and related equipment. For these reasons, it would be inappropriate to subject repowered or replacement units to the same section 316(b) standards that EPA proposes to apply to new *additional* units. EPA’s proposed definition of a “new unit” reflects sound policy and should be made part of the final rule.

3. Entrainment Standards Must be Determined on a Site-Specific Basis.

EPA has correctly proposed to retain a site-specific process for determining BTA for entrainment at existing facilities, which allows local permitting authorities to individually weigh cooling water intake structure requirements on a facility-by-facility basis in light of environmental, economic, and other relevant factors. Site-specific BTA determinations are the best way to implement section 316(b)’s requirement that cooling water intake structures “reflect the best technology available for minimizing adverse environmental impact”.⁵ As noted below, LPPC advocates retaining site specific treatment not just for entrainment, but also for impingement.

As EPA acknowledges in the Preamble to the proposed rule, not only does section 316(b) decline to require the promulgation of uniform BTA standards; the BTA standard itself requires a complex balancing of many considerations, including cost, non-water quality environmental impacts, energy requirements, and environmental benefits.⁶ Existing facilities—especially within the electric power generating sector—feature large diversity with respect to the criteria that must be taken into account when establishing BTA. This range was made clear in EPA’s extensive analysis of the electric generating sector in Chapter 5 of its Technical Development Document accompanying the proposed rule. As recognized there, electric generating facilities vary considerably according to age, size, fuel type, and combustion technology; the availability of local water supplies (a critical consideration for closed-cycle cooling, which requires large volumes of make-up water); as well as the abundance and diversity of native aquatic wildlife.

⁵ Clean Water Act, Section 316(b).

⁶ 76 Fed. Reg. at 22,178-79.

In some areas, local geography and land constraints may rule out certain technological controls for entrainment. Because of this diversity, there is simply no coherent way for EPA to arrive at a uniform cooling water intake structure standard—whether a performance requirement or a technology mandate—that adequately accounts for this variety of facilities. This is why EPA has historically relied upon facility-by-facility determinations to establish cooling water intake structure requirements.⁷ Site-specific BTA determinations also take advantage of the expertise of local permitting authorities and allow individual jurisdictions to base BTA determinations on local policy priorities.

COMMENTS ON APPLICABILITY

Calculation of DIF Should Take Into Account Permit Conditions

In the proposed rule, EPA requests comment on the proposed definition of “design intake flow.”⁸ LPPC generally supports EPA’s proposal that DIF be calculated on the basis of a holistic assessment of all the physical limitations on the amount of water that a facility can withdraw. EPA should expand the definition of DIF, however, to make clear that legally binding restrictions on intake flow (such as restrictions incorporated into a National Pollutant Discharge Elimination System (NPDES) permit) can be used to determine DIF. A legal restriction incorporated in a NPDES permit is no less of a permanent constraint on intake flow than engineering factors such as piping configurations or pump capacities. Compliance with permit conditions is ensured not just through annual NPDES reporting requirements, but also through the significant enforcement penalties associated with violating conditions of NPDES permits. Allowing facilities to count NPDES permit restrictions when calculating DIF would also give facilities an incentive to voluntarily reduce flows where possible, which is consistent with the intent of the proposed rule.⁹

LPPC also notes in this regard that EPA’s Clean Air Act programs provide strong precedent for allowing a facility to use legally enforceable activity constraints to remain below permitting thresholds. Under the Prevention of Significant Deterioration (PSD) preconstruction permitting

⁷ Phase I Rule for 316(b) at 65,262.

⁸ Proposed 40 CFR § 125.92.

⁹ See 76 Fed Reg. at 22,195 (Noting that use of actual intake flow as threshold for Entrainment Characterization Study “may encourage some facilities to reduce their flows . . .”).

program, for example, a facility may adopt legally enforceable constraints on its emissions in order to demonstrate that its potential-to-emit (PTE) remains below PSD permitting thresholds. Similarly, EPA should allow facilities to remain below section 316(b) thresholds by adopting legally enforceable constraints on the volume of withdrawals. Such an approach would ensure that section 316(b) standards burden only those facilities that have a real potential to impact the aquatic environment.

EPA Should Exempt Intakes that are used Infrequently or as Emergency Back-up to Provide Make-up Water for Cooling Towers.

EPA's current applicability criteria under 125.91(a) would cover any intake structure at an existing facility with a DIF of 2 MGD or greater, including an intake that provides make-up water to cooling towers. Those intakes would then be subject to various reporting requirements including the impingement mortality reduction plan per 122.21(r)(ii)(A), and also subject to impingement and entrainment standards. In some cases, however, these intakes may be used on only a few days a year as a secondary source of make-up water (for example as back-up for a system that primarily uses treated effluent as a make-up water source, which EPA clearly intended to be exempt from proposed standards per 125.91(c)). LPPC urges EPA to change the applicability criteria in 125.91(a) to exempt intakes that are infrequently used as a secondary source of make-up water, especially in cases where the primary source of cooling water is already exempt from the section 316(b) standards. We suggest that secondary sources of make-up water that are used on no more than 30 days per year should qualify for this exemption. This limited exemption for small and infrequently used intake structures would prevent onerous reporting and compliance requirements from being imposed on systems that clearly have minimal environmental impact and likely already meet BTA standards..

EPA Should Adopt the 50 MGD DIF Threshold Proposed in "Option 4"

The evidence EPA has collected on the expected scope and impact of the proposed section 316(b) standards weighs strongly in favor of increasing the applicability threshold for the standards to a level equivalent to at least 50 MGD DIF, as proposed in "Option 4" outlined in the proposed rule and accompanying technical documents. A 50 MGD DIF threshold would ensure that the largest facilities responsible for the vast majority of the nation's cooling water

withdrawals are subject to regulation. According to the data gathered in previous section 316(b) rulemakings, a 50 MGD DIF threshold for applicability would cover approximately 60% of the nation's electric generating facilities, which are collectively responsible for approximately 90% of total national cooling water withdrawals.¹⁰ Thus, a 50 MGD DIF threshold would only marginally affect the coverage of the proposed section 316(b) standards. Not surprisingly given this relatively minimal impact on coverage, EPA has also determined that the 50 MGD threshold would capture virtually all (98.9%) of the monetized economic benefits associated with the proposed 2 MGD DIF threshold.¹¹ At the same time, a 50 MGD threshold would exclude smaller facilities that both have minimal environmental impacts and fewer resources to implement new impingement and entrainment technologies.

EPA Should Craft Appropriate Exclusions for Certain Jurisdictional Waters.

The applicability provisions of the section 316(b) standards err in not recognizing exclusions for certain jurisdictional waters where the environmental impacts of cooling water intake structures are likely to be negligible. Certain LPPC members, for example, operate intake structures that withdraw from canals and other manmade conveyances that primarily serve treatment plants and agricultural lands. These waterbodies are jurisdictional, but they are generally not designated for wildlife uses and are not active wildlife habitats. Similarly, some cooling water intake structures withdraw from waterbodies at depths where the levels of dissolved oxygen are too low to support much aquatic wildlife. Yet the proposed section 316(b) standards would require intake structures that withdraw from such waterbodies to meet impingement standards and undergo a BTA analysis. LPPC asserts that it should be possible for EPA to instead define narrow categories of waterways (including irrigation canals, waterbodies with very low dissolved oxygen, or other waterbodies with very low populations of aquatic wildlife) where it is appropriate not to apply section 316(b) standards.

¹⁰ Phase III rule at 35,017. Phase II at 41,581.

¹¹ 76 Fed. Reg. at 22,208.

COMMENTS ON IMPINGEMENT STANDARDS

The Impingement Standards Should Provide Additional Flexibility to Permitting Authorities.

For the reasons given above, LPPC strongly supports site-specific determinations of BTA for both impingement and entrainment, taking into account not just available technologies but also operating practices and techniques that are capable of minimizing fish mortality. While LPPC appreciates EPA's attempt to provide some compliance flexibility with respect to impingement by proposing to give facilities to the option of choosing between a numerical impingement performance standard or an intake velocity standard, such flexibility is not sufficient. The effectiveness, cost, energy, and non-water quality environmental impacts of the various BTA options vary too much for EPA to prescribe a single technology as BTA for impingement at all facilities. Accordingly, LPPC urges EPA to consider providing added flexibility with respect to impingement by adopting one or both of the following proposals:

Facilities should be able to demonstrate avoidance of impingement. One important shortcoming of the proposed numerical performance standard is that the standard rewards facilities solely for minimizing mortality of fish that are actually impinged on intake screens—and gives facilities no incentive to implement technologies or operating practices¹² that avoid or reduce impingement in the first place. Indeed, the impingement standard may even penalize facilities with very low incidence of impingement, in that each fish impinged represents a larger percentage of total mortality when fewer fish are impinged.

EPA should not prevent facilities from implementing appropriate, innovative means to comply with section 316(b). Thus, LPPC recommends that EPA provide an additional compliance option allowing facilities to demonstrate to local permitting authorities (as part of their required Impingement Mortality Plans) that they will implement technologies or operating practices that will reduce impingement by at least as much as would be expected if the facility were to meet the numerical impingement performance standards.

¹² The Second Circuit has explicitly held that section 316(b) standards may include operating practices as well as technological specifications. *Riverkeeper, Inc. v. United States Environmental Protection Agency*, 358 F.3d 174, 198 (2d Cir. 2004) (“[T]he statute allows the EPA to regulate the operation of cooling water intake structures, as the word “design” can reasonably be read to embrace the methods used in running a structure as well as its physical layout and technical specifications.”).

EPA should create cost-based variances to impingement standards. EPA’s proposed section 316(b) standards give permitting authorities no discretion to issue appropriate alternative BTA requirements in cases where the impingement standards would produce no benefit or are unreasonably costly. By contrast, the “Phase I” section 316(b) standards for new facilities allow facilities to petition for alternative BTA requirements where implementing BTA would “result in compliance costs wholly out of proportion” to the cost estimates that were used as the basis for the rule, or would cause adverse impacts on local air quality, water resources, or energy markets. In addition, EPA’s original section 316(b) standards for existing electric generating units (the “Phase II” standards) permitted variances from BTA where an applicant could demonstrate that the costs of implementing BTA would be “significantly greater” than the benefits.¹³

Both of these cost-based variances sensibly acknowledged that in individual cases, the costs of meeting BTA requirements may be so high as to justify a departure from the otherwise applicable standards. LPPC also notes that EPA has generally recognized the value of flexibility in the proposed section 316(b) standards for entrainment by providing permitting authorities with discretion to establish BTA on a case-by-case basis. In the case of impingement, flexibility to grant cost-based variances is particularly necessary in cases where a facility is withdrawing from a water body that has very low abundance of aquatic life (for example, stagnant water bodies with very low dissolved oxygen, or manmade irrigation canals), where very few fish or other organisms are impinged, and where the benefits of implementing BTA for impingement would accordingly be negligible. Thus, LPPC urges EPA to revise the section 316(b) standards for impingement to provide flexibility to give cost-based variances from BTA, similar to the authority provided to permitting authorities under the Phase I standards and the remanded Phase II standards.

The Numerical Impingement Performance Standards Are Poorly Supported.

EPA’s proposed performance standards for impingement are based on sparse empirical evidence and may not be achievable in practice. According to EPA’s TDD, the monthly average limitation of 30% was derived by modeling a beta distribution on just eight observations from three facilities, all located in New York State, and selecting the impingement mortality rate that

¹³ Phase II standards at 41,686 (proposed 40 CFR § 125.94(a)(ii)). This cost-based variance was specifically scrutinized and upheld by the Supreme Court in *Entergy Corp. v. Riverkeeper, Inc.*, 129 S.Ct. 1498, 1509 (2009).

corresponded to the 95th percentile in the modeled distribution.¹⁴ EPA did not make clear in the TDD or the Preamble whether a sample size consisting of just eight observations from a regionally unrepresentative area is sufficiently large to model a beta distribution with an adequate degree of confidence. The small number of studies underlying EPA's statistical analysis for the monthly impingement limitation suggests that either a higher standard is warranted (corresponding to a higher percentile than is usually applied to NPDES pollution limitations) or that an entirely different approach to setting impingement standards should be adopted (such as a more flexible, site-specific BTA determination, as LPPC advocates above).

EPA's methodology for deriving the 12% annual average limitation is also poorly supported. To calculate the annual average limitation, EPA simply used the expected average of the beta distribution that was modeled based on the eight observations described above.¹⁵ EPA assumed that monthly impingement mortality observations collected from any given facility would be distributed about the expected average in the manner suggested by the beta distribution, and reasoned that the facility could therefore achieve the expected average over the course of a year.¹⁶ EPA's only apparent effort to validate this assumption was to generate four averages based on the eight collected observations—intended to be representative of annual averages—and determine that two of the four averages met with the annual average limitation of 12%, consistent with the beta distribution.¹⁷

This methodology gives little assurance that the 12% annual average limitation is actually achievable in practice, even at facilities that have installed BTA technologies for impingement and are implementing best practices for operations and maintenance. First, as noted above, the beta distribution itself is based on just eight observations, and may not accurately represent the expected average annual impingement for existing facilities or the probability of obtaining observations centered about that average. Second, even if accurate, the beta distribution itself merely shows the probability of obtaining any given impingement mortality result. For any twelve-month period, it is perfectly possible that a well-operated, well-maintained, fully-equipped facility would obtain monthly impingement results whose average departs from the

¹⁴ TDD at 11-6 to 11-8 (describing the eight studies examined and EPA's statistical analysis).

¹⁵ TDD at 11-8.

¹⁶ TDD at 11-9.

¹⁷ TDD at 11-9.

expected average of the beta distribution—in the same way that twelve successive coin tosses may result in a skewed distribution of “heads” and “tails,” even though a roughly equal distribution of “heads” and “tails” would be expected over a larger number of coin tosses. EPA tacitly acknowledges this issue in the preamble when it says that “some variability in the annual average is inevitable, and thus the only way to consistently achieve the 12 percent annual standard is to target a better level of performance as the long-term average performance.”¹⁸

The preamble to the proposed standards attempts to downplay this issue by asserting that “facilities can achieve a better long-term performance than is documented in the data” by “continuously monitoring and adaptively adjusting the operation of the [impingement] technology.”¹⁹ EPA offers no support for this belief, instead referring generically to its practice in setting pollutant discharge limits under the Clean Water Act. Given the paucity of data to support EPA’s annual average limitation, EPA must, at minimum, set the average limitation at a more conservative level to account for inherent variability in the performance of even well-maintained, well-operated cooling water intake structures.

EPA Must Clarify the Minimum Frequency of Impingement Monitoring.

The proposed rule makes multiple inconsistent statements regarding the minimum frequency of monitoring for compliance with the impingement standards. The proposed regulatory text, for example, requires impingement monitoring to take place at least once per month.²⁰ However, the preamble states that “EPA assumes” monitoring would take place “no less than once per week during primary periods of impingement . . . and no less than biweekly during all other times.”²¹ LPPC’s preferred solution to this discrepancy is to allow permitting authorities discretion with respect to monitoring frequency, with a minimum monitoring frequency of once per month (as provided in the proposed regulatory text). This standard would give each permitting authority the flexibility to establish a monitoring frequency that is appropriate given local abundance of aquatic wildlife, species diversity, and seasonal ecological patterns, while ensuring that sufficient data is collected to assure compliance with the monthly impingement standard.

¹⁸ 76 Fed. Reg. at 22,203.

¹⁹ 76 Fed. Reg. at 22,203.

²⁰ Proposed Rule, 40 CFR 125.96(a)(2).

²¹ 76 Fed. Reg. at 22,257.

COMMENTS ON ENTRAINMENT STANDARDS

EXISTING UNITS

As noted above, LPPC supports EPA's proposal to allow entrainment requirements to be decided by local permitting authorities on a site-specific basis.²² While EPA has found that closed-cycle cooling reduces impingement and entrainment mortality "to the greatest extent" of all technologies,²³ as the EPA acknowledges, such systems are not technically or economically practicable in many instances. Permitting authorities must therefore have the authority to take into account issues such as appropriate technologies, electric reliability, local air quality, and adverse economic interests when determining BTA for a particular site.

BTA Standards should focus only on impingement.

The EPA has requested comment on the alternative proposal of using solely impingement requirements to manage harm to aquatic life, and to eliminate the necessity of site-specific analysis of entrainment BTA.²⁴ LPPC would support such a change. Many of the technologies to address impingement also assist in reducing entrainment. Therefore, when implementing measures to reduce impingement, facilities will concurrently reduce entrainment. A reasonable BTA standard based solely on impingement could achieve protection of aquatic organisms while significantly reducing the burden of compliance with the proposed rule. Facilities will expend considerable resources in conducting the site-specific entrainment analysis, and such resources may be better deployed in addressing impingement in a comprehensive way.

If EPA moves forward with entrainment study requirements for all facilities in the final rule, it should eliminate the site-specific entrainment analysis for facilities that meet the 0.5 feet per second (fps) flow rate standard for impingement. Such a change would be consistent with the "Track I" of the Phase I rules for smaller new facilities. In addition, it would reduce the

²² 76 Fed. Reg. at 22197.

²³ 76 Fed. Reg. at 22,207.

²⁴ 76 Fed. Reg. at 22,205. The EPA notes that it, "considered proposing no further controls to address entrainment mortality, and to rely instead only on the BTA impingement mortality controls, which would achieve up to a 31 percent reduction in total AEI... EPA requests comment on the option of basing national BTA on impingement controls only and dropping the specific requirement for a structured site specific analysis of entrainment BTA options, as discussed below."

compliance burden while maintaining environmental protection because facilities with a flow rate below 0.5 fps will have generally low mortality rates for aquatic organisms.

The Entrainment Characterization Study should be Streamlined.

The EPA has chosen to use an “Entrainment Characterization Study” (ECS) as the central device for determining entrainment BTA. The ECS is required for facilities with an actual intake flow (AIF) of greater than 125 MGD. Most LPPC member facilities will be required to undertake ECS studies, and therefore LPPC is concerned about the potentially burdensome nature of the requirements.

The ECS requirements will be often be quite onerous for regulated facilities. The ECS must include an “Entrainment Mortality Data Collection Plan,” which is required to go through a review and comment period prior to implementation. The Entrainment Mortality Data Collection Plan is also required to include a large amount of data, some of which is not otherwise collected by the facilities. Significant time and cost will go into collecting and analyzing such data. If the EPA maintains the ECS process in the final rule, it should simplify the requirements of the ECS and streamline the analysis. In particular, EPA should issue specific guidance on the role of peer review throughout the ECS, and outline a dispute resolution procedure to address formal disagreement with peer review comments

LPPC notes that the EPA did appropriately base the threshold for the ECS requirement on actual intake flow (AIF) rather than design intake flow (DIF).²⁵ The EPA was also reasonable in choosing a 125 MGD AIF level as the applicability standard because it would “capture 90 percent of the actual flows but would only establish the Entrainment Characterization Study requirements for 30 percent of existing facilities.”²⁶ EPA must clarify the final rule, however, to state that the threshold AIF level is an *average* based on the past three years.²⁷ This will allow for averaging of flow over such period, providing a more accurate picture of the impacts on aquatic life for peaking and load-following plants that operate only sporadically.

²⁵ 76 Fed. Reg. at 22,195.

²⁶ 76 Fed. Reg. at 22,195.

²⁷ 76 Fed. Reg. at 22,281.

The Use of Closed-cycle Cooling should Exempt Facilities from Further Study.

EPA requires that all facilities which meet the applicability criteria conduct case-by-case analysis for entrainment²⁸ using the ECS. Facilities that employ closed-cycle cooling are not specifically exempt from such requirements, and therefore will also have to engage in the process of entrainment assessment, and potentially implement further controls. Facilities that employ closed-cycle cooling should not be required to undertake further BTA studies or implement additional measures to reduce entrainment. The EPA found that closed-cycle cooling is BTA under optimal conditions,²⁹ and therefore facilities that achieve that high level of environmental protection should receive the benefit of ensured compliance without further study.

The proposed 316(b) rule does state that facilities which employ closed-cycle cooling *may* have reduced study requirements. However, such exemptions will be at the discretion of local permitting authorities. Regulated facilities will have no certainty concerning exemption or reduced requirements. The proposed 316(b) regulations therefore may subject existing facilities to an even more stringent standard than the standard which applies to new facilities under EPA's Phase I rule ("Track I" of the Phase I rule generally provides that a new facility is compliant with BTA if it reduces withdrawals to levels commensurate with closed-cycle cooling). Requiring a more stringent level of control is in direct contradiction with EPA's guidance that new facilities should be required to implement additional measures beyond what is required for existing facilities. Therefore, it is paramount that the EPA change the final rule to make clear that existing facilities which utilize closed-cycle cooling will meet the entrainment standards without engaging in further regulatory compliance. Altering the final rule in such a way will reduce the outlay of resources for facilities that are already achieving a high level of environmental performance.

A Technology should not be regarded as BTA unless the Benefits Justify the Costs.

The proposed 316(b) rule states that even if a technology is available for use as BTA, it may be rejected if the benefits to the environment are not justified by the economic costs. Such flexibility in balancing costs and benefits is of utmost importance to achieving the goals of

²⁸ 76 Fed. Reg. at 22205.

²⁹ 76 Fed. Reg. at 22,207.

section 316(b) at a reasonable cost, and therefore this flexibility should be highlighted when the rule is finalized and implemented. It should also be emphasized that decision to find a particular technology to be BTA remains at the discretion of the permitting authority, who can also determine that no entrainment controls should be applied where appropriate.³⁰ LPPC requests that such flexibility be explicitly preserved in the final rule.

In addition, as noted in the proposed rule, EPA expects that all site-specific entrainment determinations by facilities without closed-cycle cooling will include an assessment of installing closed-cycle cooling or installing fine mesh screens with a diameter of 2 mm or smaller³¹ during the entrainment characterization study. LPPC suggests that should be possible, however, to submit a truncated analysis if a factor such as a lack of land availability, for example, precludes the use of closed-cycle cooling all together.

NEW UNITS AT EXISTING FACILITIES

“New units” at existing facilities are required to implement closed-loop cooling under the proposed rule. EPA is reasonable in defining a new unit to exclude existing units that are merely repowered or remodeled³² and allowing repowered or remodeled units the flexibility of site-specific analysis. A more flexible approach, however, should also be brought to bear for new units at existing facilities. New units should also be afforded a case-by-case approach to entrainment control to properly evaluate the same site-specific factors cited for existing facilities. LPPC understands that in the case of new units, an analysis of these factors may more often lead to the conclusion that closed-cycle cooling is appropriate. However, given the diversity of facilities and circumstances noted above, such factors should still be applied within a case-by-case analysis for determining new unit BTA. While it is true that new units may have the ability to make different technological choices that existing units, in many cases they will still be faced with economic or reliability issues that prevent them efficiently adopting closed-cycle cooling as BTA.

³⁰ 76 Fed. Reg. at 22205.

³¹ *Id.*

³² 76 Fed. Reg. at 22193.

EPA Must Clarify the Credit Provided for Unit Retirements.

Under the proposed rule, credit can be given for unit retirements in order to meet flow reductions commensurate with closed-cycle cooling. Such a crediting approach is reasonable, and LPPC supports the EPA's attempts to increase the flexibility of the proposed regulations. As written, however, credit can only be received for a 10-year period. After such period, the proposed rule is not clear as to how unit retirements would be treated, potentially leading to confusion. LPPC suggests that credit received for unit retirements should stay with the facility for its useful life.

The Use of Waivers is Beneficial, but should be Clarified.

Waivers are a useful way to introduce flexibility into the BTA standards for new units. The proposed rule is unclear, however, on the circumstances under which such waivers will become available. The EPA should provide guidance, including a clearer definition of what it means for compliance costs to be "wholly out of proportion." The proposed rule is currently quite vague concerning such waivers and the process of obtaining one should it be needed. Clarification is required so facilities may assess the need for modifications to their compliance regime with a full understanding of the waiver process.

MONITORING REQUIREMENTS

All facilities will be required to implement monitoring, and specifically to monitor their entrainment levels. To reduce the compliance burden of the rule, it will be important to harmonize the monitoring requirements and timing for the impingement and entrainment standards.

The EPA has also requested comment with regard to whether it is reasonable to assume 100% mortality for entrained organisms when monitoring. While such an assumption may be correct in some cases, LPPC asserts it is not reasonable as a general statement. Some facilities may be able to show less than 100% mortality for certain species. In such instances, a documented lower mortality rate should lead to a less stringent standard. EPA may therefore still find that an assumption of 100% mortality is a rebuttable presumption, but it is important to allow facilities to conducting appropriate studies and to get credits for mortality levels below 100%.

COMMENTS ON IMPLEMENTATION OF THE STANDARDS

EPA Should Establish Reasonable Deadlines for Submitting Studies and Information.

LPPC is concerned that electric generating facilities with a DIF greater than 50 MGD will have difficulty meeting the ambitious deadlines proposed by EPA for submission of permitting information.³³ The proposed section 316(b) standards would require such facilities to submit nine categories of information — including entrainment mortality and impingement mortality reduction plans — within six months of the promulgation of the final standards. EPA incorrectly argues that this accelerated timeline is appropriate, because many of these large facilities have already gathered much of the information that EPA proposes to collect in preparation for compliance with the suspended Phase II standards. To be sure, there are some similarities between the information collection requirements in Phase II and the proposed section 316(b) standards. However, much of the information that was gathered under the Phase II standards may no longer be up-to-date and will at least need to be reviewed and verified before submission to permitting authorities. Moreover, the impingement mortality reduction plan does not appear to have a counterpart in the Phase II standards. Impingement mortality reduction plans will therefore need to be prepared in order to comply with the new standards, and entrainment mortality plans may need to be substantially revised.

A six month window is a very tight timeline for collecting and compiling this information and preparing the necessary reports. LPPC recommends that the deadlines for EGUs with at least 50 MGD DIF be deferred by at least six months, and that the deadlines be measured from the *effective date* of the new section 316(b) standards (not the promulgation date, as indicated in Exhibit IX-1 of the Preamble). Thus, under our suggested approach, the first studies and reports would not be due until 1 year after the effective date of the section 316(b) standards. This modest adjustment of the deadlines will not substantially delay implementation of the new standards.

³³ See 76 Fed. Reg. at 22,255 (Exhibit IX-1).

EPA Should Permit Longer Compliance Deadlines Where Complex Upgrades Are Required to Address Impingement and Entrainment.

In general, the proposed deadlines for coming into compliance with the section 316(b) standards are reasonable. However, the preamble to the proposed rule requests comment on whether an extension of the eight-year deadline for compliance with impingement may be appropriate where a facility is undertaking simultaneous modifications to implement BTA for impingement and entrainment (namely, through the installation of cooling towers). LPPC agrees that it would be desirable for permitting authorities to have discretion to defer deadlines for compliance for such complex retrofits. Because the time required to complete these projects will vary with site-specific conditions, LPPC is not able to recommend a maximum deadline for coming into compliance. Instead, we recommend that EPA allow permitting authorities to set a deadline that ensures compliance as soon as practicable, much as the proposed standards would allow for compliance with the entrainment standards alone.³⁴

CONCLUSION

LPPC thanks EPA for its careful consideration of the above comments, and stands ready to provide further information and comment at the Agency's request.

Respectfully submitted,



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³⁴ 76 Fed. Reg. at 22,248.