

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

National Pollutant Discharge Elimination System – Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Existing Facilities; Notice of Data Availability Related to EPA’s Stated Preference Survey

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Table of Contents

	<u>Page</u>
I. EXECUTIVE SUMMARY	1
II. BACKGROUND	2
III. DETAILED COMMENTS	3
A. Until Now, EPA’s Cost-Benefit Analyses Have Been Drastically Incomplete.....	3
B. EPA’s Data Show That the Benefits of Closed-Cycle Cooling Outweigh the Costs By More Than 3:1 and Provide a Greater Net Social Benefit (\$13 Billion) Than Any Other Option Considered by EPA.....	4
C. Other Evidence Corroborates the Results of the Stated Preference Study and Demonstrates That Total Benefits Are Likely Much Higher Than EPA Estimated.....	5
D. EPA Should Select Option 3 for the Final Rule Because This Most Environmentally Protective Option Also Produces the Greatest Net Benefits to Society	7
E. If EPA Retains a Case-By-Case BTA Determination Process, It Should Eliminate the Use of Site-Specific Cost-Benefit Analyses	8
F. If EPA Persists in Allowing Site-Specific Cost-Benefit Analysis, EPA Should Strictly Control How These Studies Are Performed and Should Mandate the Use of the Implied Prices from the Stated Preference Study as Minimum Values.....	9
G. EPA Cannot Ignore the National Willingness to Pay Estimates Derived from the Stated Preference Survey Unless It Eschews Cost- Benefit Considerations Entirely	11
H. Documents Recently Released to Riverkeeper by the Office of Management and Budget Shed More Light on OMB’s Extensive Influence on the Proposed Rule	11

I.

EXECUTIVE SUMMARY

For many years, EPA has recognized that the benefits of protecting fish, shellfish and other aquatic organisms from destruction by cooling water intake structures were highly significant. But because, in the absence of a stated preference survey, EPA was unable to attach a specific dollar figure to those benefits, 98 percent of the benefits have been routinely “zeroed out” or ignored by EPA and state agencies. This has resulted in cost-benefit comparisons that weigh complete costs against wildly incomplete benefits, skewing decisionmaking against environmental protection.

Now that EPA has conducted a stated preference survey, and more complete benefit results are available, it is clear that the monetized benefits of a national, categorical closed-cycle cooling mandate far outweigh the costs. Furthermore, Option 3 (the most environmentally protective of EPA’s four options for the existing facility rule) produces the greatest net benefits.

Accordingly, EPA should select Option 3 for the final rule and should not allow site-specific cost-benefit analyses in the context of issuing permits for the 1,260 facilities subject to the rule.

In particular, these comments make the following points:

- Each time EPA has done a monetized cost-benefit analysis for a Section 316(b) determination, it has zeroed out or ignored 98 percent of the benefits, as have companies and permit writers around the country.
- EPA has now monetized those benefits in a stated preference study, showing that the benefits exceed the costs by a wide margin.
- Other evidence points to the same conclusion and underscores the fact that benefits of closed-cycle cooling exceed the costs, even though EPA still undervalues the benefits.
- Since benefits exceed costs, EPA should select rulemaking Option 3, which is not only the most environmentally protective option but also produces the highest net benefits.
- If EPA nevertheless retains a site-specific BTA analysis, it should disallow the use of specific cost-benefit analysis as a consideration in site-specific determinations. It would be irrational, arbitrary and capricious to ask permit writers to do site-specific monetized cost-benefit analyses when EPA knows that they cannot come close to replicating the level of methodological rigor and the quality analysis of results reflected in EPA’s national numbers.
- If EPA persists in authorizing the impossible or impractical, it must provide precise rules on how site-specific cost-benefit analysis should be performed. Since EPA has data on the monetary value of non-use benefits, EPA must require states to use EPA’s willingness to pay valuations as minimum values in all state-level benefits analyses.

II.

BACKGROUND

In *Entergy Corp. v Riverkeeper, Inc.*, 556 U.S. 208 (2009), the U.S. Supreme Court held that EPA is permitted – but is not required – to use cost-benefit analysis in determining the content of regulations promulgated under Section 316(b) of the Clean Water Act (CWA). Indeed, EPA has not always employed cost-benefit analysis when promulgating Section 316(b) regulations. For example, EPA’s Phase I rule for new facilities, issued in 2001, does not authorize permit writers to consider costs in relation to benefits when implementing that rule. Similarly, EPA did not use cost-benefit analysis in developing the new facility portion of the Phase III rule for an important reason – because it was unable to reliably quantify the benefits – and that decision was upheld by the U.S. Court of Appeals for the Fifth Circuit in *ConocoPhillips Co. v. United States EPA*, 612 F.3d 822 (5th Cir. 2010).

For the existing facility rule presently under consideration by the agency, EPA has proposed to use cost-benefit analysis in several respects. First, as part of the regulatory impacts analysis, and as directed by Executive Orders 12866 and 13563, EPA is evaluating the costs and benefits of its national rule. EPA has said that its preference for Option 1, rather than the other options under consideration, was based on factors other than cost-benefit. But it appears that the original cost-benefit considerations may have heavily influenced the agency’s decisionmaking. Second, the proposed rule authorizes state permit writers to conduct a new site-specific cost-benefit analysis each time they issue a permit to any one of the 1,260 facilities covered by the rule. Thus, the rule could result in 1,261 different cost-benefit analyses, one for the national rule and the rest conducted by the 46 delegated states and the EPA regional offices that issue permits in non-delegated states.

However, EPA has repeatedly monetized only about 2 to 3 percent of the benefits of protecting fish from destruction by cooling water intake structures, giving the other 97 to 98 percent of benefits a zero value. Although those benefits are sometimes described in qualitative terms, this “zeroing out” of the benefits from a quantitative perspective has left EPA comparing reasonably complete costs against drastically incomplete benefits. Such biased comparisons render the entire cost-benefit analysis a meaningless exercise and, more significantly, they skew decisionmaking against environmental protection. Across industry, commerce, and government, it has long been a truism that only what gets measured gets managed. EPA has repeatedly said that the other 98 percent of benefits can only be monetized through use of “stated preference” methods. However, those methods were not used for the Phase I or Phase II rules and, although EPA began a stated preference survey for the Phase III rule, it was never completed. Thus, the stated preference survey now being completed for the existing facility rule represents the first time that EPA has ever truly attempted to monetize the benefits of a Section 316(b) rule.

III.

DETAILED COMMENTS

A. Until Now, EPA's Cost-Benefit Analyses Have Been Drastically Incomplete.

In the proposed rule, EPA readily admitted that its efforts to monetize the benefits of cooling water intake regulations were inadequate.¹ In the Environmental and Economic Benefits Assessment (EEBA) for the proposed rule, EPA listed entire and substantial categories of benefits – including many non-use values – that were beyond its capacity to monetize.² And in preamble text that EPA submitted to OMB (and which OMB deftly excised before allowing publication), the agency stated that:

EPA's calculation of reduced impingement and entrainment benefits of closed-cycle cooling does not account for 97 percent of the direct use A1E [age 1 equivalents] of organisms entrained by cooling water intakes. Moreover, the monetized benefit values do not include the majority of the indirect use and nonuse value of the reductions in I&E mortality, and completely exclude categories such as the non commercial portion of impacts to threatened and endangered species, the thermal discharge impacts to water quality, and species composition.³

EPA also failed to monetize the indirect use benefits of fish and healthier aquatic ecosystems, such as scuba diving, or hunting and watching birds that eat fish. EPA placed a zero value on these activities.

In order to ensure that its final benefits analysis does not continue the practice of zeroing out 98 percent of the total social benefits of protecting America's lakes, rivers, oceans and estuaries, EPA developed "a stated preference survey to estimate total willingness to pay (WTP) for improvements to fishery resources affected by impingement and entrainment (I&E) mortality from in-scope 316(b) facilities."⁴

¹ See, e.g., Memorandum from Erik Helm, EPA, to the Section 316(b) Existing Facilities Rule Record regarding the 316(b) Stated Preference (SP) Survey – Survey Methods and Model Results (June 5, 2012) ("EPA's estimated benefits of the proposed rule were partial estimates only").

² See EPA, *Environmental and Economic Benefits Analysis of the Proposed Section 316(b) Existing Facilities Regulation* at 4-1 (March 28, 2011) ("2011 EEBA").

³ EPA-HQ-OW-2008-0667-1295 2 at 141, with markup showing, EPA-HQ-OW-2008-0667-1407 [DCN 10-6625B], (Redline-strikeout documenting changes made during EO 12866 review).

⁴ EPA, National Pollutant Discharge Elimination System—Proposed Regulations To Establish Requirements for Cooling Water Intake Structures at Existing Facilities; Notice of Data Availability Related to EPA's Stated Preference Survey 77 Fed. Reg. 34,929, col. 2 (June 12, 2012) ("NODA").

B. EPA's Data Show That the Benefits of Closed-Cycle Cooling Outweigh the Costs By More Than 3:1 and Provide a Greater Net Social Benefit (\$13 Billion) Than Any Other Option Considered by EPA.

Now that the results of EPA's stated preference study have been compiled, those results are unequivocal: the benefits of EPA's Options 2 and 3 (which require national, uniform standards for impingement and entrainment mortality reductions based on the performance of closed-cycle cooling systems) are substantially greater than their costs and provide billions of dollars in net benefits to Americans. That is true even though EPA continues to undercount the full benefits.

In the survey supporting documents, EPA discusses in some detail the methods for estimating national WTP, but does not present a calculation of the total nation benefits of each option under consideration.⁵ The commenters asked noted environmental economist Frank Ackerman of the Stockholm Environment Institute to review EPA's data and carry the national benefits analysis forward. Professor Ackerman's comments are attached.⁶

Professor Ackerman found two significant errors that greatly skew EPA's benefits analysis downward. First, EPA presents incorrect and highly misleading figures on the percentage effectiveness of cooling water intake regulations in the Pacific region. In other regions, EPA calculates the percentage of fish saved by Options 2 and 3 at approximately 90 percent. In the Pacific Region, EPA estimates that less than 10 percent of fish are saved. The significant difference is explained by EPA's treatment of California. EPA considers coastal power plants in California to be outside the scope of this rule because the state's existing policies may require coastal facilities to retrofit to closed cycle cooling independently of any federal requirements. Therefore, EPA excludes the fish that would be saved by closed-cycle cooling retrofits on the California coast from its tally of the fish that would be saved by federal regulations. But EPA includes the fish presently being killed along the California coast in its baseline mortality estimate.

Thus, when calculating the effectiveness of federal cooling water intake regulations, EPA counts fish killed on the California coast in the denominator but excludes fish saved on the California coast from the numerator. This is arbitrary and illogical, not "conservative." It makes no sense to include a large quantity of out-of-scope impacts when calculating the percent of fish within the rule's scope that are saved by regulatory options. Accordingly, Professor Ackerman removes the out-of-scope California baseline mortality from the national baseline mortality. This raises the percentage of in-scope fish saved by EPA Options 2 and 3 from around 79 percent to roughly 91 percent.⁷

Second, Professor Ackerman corrects EPA's "puzzling and illogical suggestion" that WTP calculations should be based on the value of only one of the four "attributes" that EPA

⁵ See EPA, Survey Support Document in Support of Section 316(b) Stated Preference Survey Notice of Data Availability 32-36 (June 2012) ("Survey Support Document").

⁶ See Frank Ackerman, Comments on EPA's Section 316(b) Stated Preference Survey (July 10, 2012), attached as Appendix A ("Ackerman Comments").

⁷ See Ackerman Comments at 4-6.

asked Americans to price separately.⁸ EPA designed a survey that asked respondents to price a basket of four separate “attributes,” or environmental goods, related to saving fish. EPA carefully staggered the survey options so that different respondents priced different combinations of these four goods. Through this design, EPA ensured that respondents would evaluate each environmental good independently of the others and, therefore, the appropriate measure of household WTP for a regulatory option is the sum of the contributions from all four attributes.⁹

Correcting for these errors, Professor Ackerman finds that the discounted monetized annual benefits of Option 3, EPA’s most protective option, are as high as \$18 billion at a 3 percent discount rate and \$11.4 billion at a 7 percent discount rate. The discounted monetized annual benefits of Option 2, EPA’s second most protective option, are nearly that high (\$17.71 billion at a 3 percent discount rate and \$11.21 billion at a 7 percent discount rate). If EPA’s figures are used without these necessary corrections, the discounted monetized annual benefits of Option 3 are between \$7.03 billion and \$4.45 billion, depending upon whether a 3 percent or 7 percent discount rate is used. For Option 2, discounted monetized annual benefits are \$6.92 billion and \$4.38 billion, respectively.¹⁰ The average of EPA uncorrected benefits figures for Options 2 and 3 is between \$5 and \$6 billion.

In the Economic Benefits Assessment (EBA) that accompanied the proposed rule, EPA estimated the net present value of the annualized costs of Options 2 and 3 to be between \$4.45 and \$4.9 billion (depending on the Option and discount rate used), for an average of approximately \$4.6 billion.¹¹ Thus, using Professor Ackerman’s corrections to EPA’s figures, the benefits of Options 2 and 3 outweigh the costs by more than 3:1 (roughly \$18 billion compared to \$5 billion) at a 3 percent discount rate and more than 2:1 (roughly \$11.4 billion compared to \$4.5 billion) at a 7 percent discount rate. In other words, setting a uniform closed-cycle cooling standard for existing facilities would provide Americans with a net benefit of \$7 billion to \$13 billion. Even without making the vital corrections noted by Professor Ackerman, the benefits still exceed the average costs by approximately \$1 billion.¹² Thus, even under EPA’s implausibly and irrationally narrow constraints, Option 3 is cost-beneficial.

C. Other Evidence Corroborates the Results of the Stated Preference Study and Demonstrates That Total Benefits Are Likely Much Higher Than EPA Estimated.

Besides EPA’s stated preference study, other evidence in the administrative record supports the conclusion that the non-use values of fish and other organisms saved are substantially higher than the costs of installing closed-cycle cooling systems at existing facilities.

First, the EEBA contains EPA’s report on its effort to monetize non-use benefits through a habitat replacement cost analysis. That analysis examined the cost of restoring or recreating

⁸ Ackerman Comments at 6.

⁹ See Ackerman Comments at 6. See also Survey Supporting Document at 33-34.

¹⁰ See Ackerman Comments, Table 9.

¹¹ See EPA, *Economic and Benefits Analysis for Proposes Section 316(b) Existing Facilities Rule* Tables 12-2, 13-4, EPA 821-R-11-003, (Mar. 28, 2011) (“EBA”). See also Ackerman Comments at Table 8.

¹² See Ackerman Comments at 10-11.

sufficient habitat to compensate for the heavy fish mortality caused by existing once-through cooling water systems. EPA placed the habitat-based valuation of Options 2 and 3 at several billion dollars.¹³

Second, EPA is aware of at least two substantial categories of benefits that are excluded from this stated preference survey: reduced thermal discharges, and enhanced protection for more than 80 threatened and endangered species. Because survey respondents provided their willingness to pay for four environmental attributes of reduced impingement and entrainment without considering additional and significant benefits that would result from adopting a uniform national closed-cycle cooling standard, EPA can be confident that the stated preference study results present an incomplete, lower bound valuation of total social benefits.

It is clear from media coverage, fundraising campaigns, public support for laws protecting endangered species, and surveys that the American public places heightened value on and devotes extra attention to endangered and threatened species. EPA recounts some of the evidence for this heightened valuation of endangered and threatened species in the preamble to the proposed rule.¹⁴

But the stated preference study likely does not accurately capture the added value of conserving endangered and threatened animals because respondents were not specifically informed that such species are affected. The Notice of Data Availability (NODA) explains that survey respondents require background information in order to make informed choices because the interactions of industrial cooling systems and aquatic organisms are not matters of common knowledge.¹⁵ However, there is no indication in the NODA or supporting documents that survey respondents were informed that cooling water intakes kill or harm threatened and endangered species, particularly iconic species on which the public places a very high value, such as sea turtles. Even the final report on the focus groups and cognitive interviews that EPA conducted as a prelude to the written survey contains no mention of threatened or endangered species.¹⁶

It also appears that EPA never told respondents that paying to save 95 percent of fish from impingement and entrainment would also greatly reduce the discharge of thermal pollution, chlorine, and other biocides. The focus on impingement and entrainment is consistent with EPA's statement from the proposed rule preamble that the adverse environmental impacts addressed by Section 316(b) are impingement and entrainment, while "thermal impacts are supposed to be minimized through implementation of Section 316(a)."¹⁷ But EPA is well aware

¹³ See 2011 EEBA Chapter 9. The habitat valuation analysis is also discussed in the Stockholm Environment Institute's report appended to Riverkeeper et al.'s August 2011 comments.

¹⁴ See EPA, *National Pollutant Discharge Elimination System – Cooling Water Intake Structures at Existing Facilities and Phase I Facilities*, 76 Fed. Reg. 22,174, 22,246 (col. 1-2) (Apr. 20, 2011) ("Proposed Rule").

¹⁵ See NODA, 77 Fed. Reg. at 34,930, col. 2-3 (June 12, 2012) ("Stated preference surveys also require the provision of information to enable respondents to comprehend the potential implications of their hypothetical choices. For example, in this case, respondents may not be aware that the 'fish saved' by actions addressing cooling water intake structures include large numbers of eggs and larvae as well as fish, or that the vast majority of those organisms are species that provide no consumptive use (e.g., commercial or recreational fishing) to humans.").

¹⁶ EPA Office of Water and Abt Associates, *Findings from 2010 Focus Groups Conducted Under EPA ICR #2402.01*, [DCN 11-4710], EPA-HQ-OW-2008-0667-2726 (Jan. 19, 2011).

¹⁷ Proposed Rule, 76 Fed. Reg. at 22,246 (col. 3).

that “[t]hermal pollution has long been recognized to cause harm to the structure and function of aquatic ecosystems” and impede the recovery of impaired ecosystems by “modifying photosynthetic, metabolic, and growth rates . . . reducing levels of dissolved oxygen, altering the location and timing of fish behavior such as spawning, aggregation, and migration,” causing thermal shocks, and promoting the growth of harmful algae.¹⁸ EPA recognizes that the direct benefits to fish from a reduction in adverse thermal effects, as well as the broader benefits to fish assemblages that would result from restoring native temperature regimes are “potentially important” categories of benefits.”¹⁹

D. EPA Should Select Option 3 for the Final Rule Because This Most Environmentally Protective Option Also Produces the Greatest Net Benefits to Society.

EPA indicated in the NODA that it is still determining how the results of the stated preference survey should influence its final benefits analysis. The results should spur EPA to promulgate a final rule based on Option 3, a uniform closed-cycle cooling standard.

Even under the most implausibly constrained reading of its results, the stated preference survey demonstrates that the net benefits of Option 3 are greater than the benefits of EPA’s proposed choice, Option 1. In fact, the net benefits of closed-cycle cooling are more likely between \$3 billion and \$8 billion greater than the benefits of Option 1. Therefore, EPA should maximize net social benefits by adopting a national closed-cycle cooling standard.

EPA claims that the decision not to select closed-cycle cooling as the best technology available is not at all related to the fact that the agency’s earlier (and deeply-flawed) cost-benefit analyses did not reveal the substantial net economic benefits of this technology. Instead, EPA highlights four factors that allegedly explain why closed-cycle cooling is not the best choice: energy reliability, air emissions, land availability, and remaining useful plant life.²⁰ But by EPA’s own admission, the agency does not know how often these putative constraints on the use of closed-cycle cooling arise; it believes only that such occurrences “are not isolated or insignificant.”²¹

That some minority of plants cannot adopt the best technology available, even if it is more than a handful of plants (which it is not), is hardly an adequate basis for denying Americans the enormous societal net benefits of installing closed-cycle cooling at the majority of facilities. Variance provisions were created by Congress precisely for such situations. By establishing closed-cycle cooling as the presumptive best technology available at every site and creating a clear and unambiguous variance process for those cases where closed-cycle cooling is genuinely not possible, EPA would fulfill its mandate under the Clean Water Act, greatly simplify the administration of its proposed rule, alleviate a backlog of uncompleted BTA determinations across the country, and deliver the greatest net benefits to society.

¹⁸ Proposed Rule, 76 Fed. Reg. at 22,246 (col. 2-3).

¹⁹ Proposed Rule, 76 Fed. Reg. at 22,207 (col. 2-3).

²⁰ In its August 2011 comments, Riverkeeper, et al. explained why EPA has erred greatly in its conclusions with respect to land available, reliability, air emissions and remaining useful plant life. These arguments are not repeated here.

²¹ Proposed Rule, 76 Fed. Reg. at 22,207 (col. 1).

E. If EPA Retains a Case-By-Case BTA Determination Process, It Should Eliminate the Use of Site-Specific Cost-Benefit Analyses.

The stated preference survey shows that the monetized benefits of closed-cycle cooling greatly exceed its costs nationally and in every region by a large margin – and the monetized benefits remain an incomplete characterization of the total environmental benefits of a closed-cycle cooling standard. As such, there is no need to revisit the comparison of costs and benefits at every site. EPA should limit any case-by-case determinations (for example, those conducted under a variance process) to a straightforward evaluation of the technical feasibility of closed-cycle cooling and other technologies.

EPA’s current proposal for a case-by-case determination process is administratively unworkable and environmentally ineffective – it will lead only to delay and bureaucratic paralysis (*i.e.*, maintaining the status quo).²² Among its other problems, EPA’s proposed rule imposes administrative burdens on states that cannot be met and leaves state permit writers unfettered discretion to make case-by-case BTA determinations based on any or none of EPA’s criteria.

But the most difficult, contentious, time-consuming, inaccurate, and vulnerable part of the process is the requirement that permitting authorities oversee hundreds of site-specific cost-benefit analyses. EPA would require state regulators to conduct a detailed review of each applicant’s studies that includes both quantitative and qualitative assessments of environmental benefits and estimates of the monetized value of these benefits.²³

States have told EPA that they cannot conduct or oversee the kind of site-specific cost-benefit analyses that the agency demands. In commenting on the previous Phase II rule, New York State wrote that site-specific cost-benefit analysis “could effectively negate the value of the entire Phase II rule . . . [because] the task of placing an accurate dollar value on aquatic resource impacts is rife with ecological and economic challenges; there is no widely accepted methodology.”²⁴ Likewise, California informed EPA of its “experience . . . that it is difficult to obtain agreement on costs or benefits. The result is a long series of arguments involving dueling cost/benefit analyses.”²⁵

²² Riverkeeper, et al. provided a full critique of the numerous shortcomings and the illegality of EPA’s proposed site-specific BTA determination process in their August 2011 comments, at pages 71-84.

²³ See Proposed Rule, 76 Fed. Reg. at 22,205 (col. 3) (the state permitting authority’s “written explanation would provide a review of the social costs . . . of the various technologies; a review of the potential reductions in entrainment and entrainment mortality; and a review and analysis of monetized and non-monetized benefits.”).

²⁴ Phase II Comment Letter from Peter Duncan, Deputy Commissioner of the Office of Natural Resources, NYS DEC, to EPA Proposed Rule Comment Clerk, re the NPDES Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities, August 7, 2002, Comment 1.38, p. 3-4 (appended to Riverkeeper’s earlier comment as Exh. 90).

²⁵ Letter from Celeste Cantu, Executive Director of the California State Water Resources Control Board, to EPA Proposed Rule Comment Clerk-W-00-32, re Comments on National Pollution Discharge Elimination System Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities (Proposed Rule), August 5, 2002, at 4 (appended to Riverkeeper’s earlier comment as Exh. 103); see also Letter from Denise Sheehan, Executive Deputy Commissioner, New York DEC to Water Docket, EPA, re New York State

In its most recent comments, New York State DEC told EPA:

The requirement for an undefined social cost-benefit analysis to be conducted to support the decision to require *any* entrainment reduction technologies or operational measures at an existing facility is unwarranted and overly burdensome... EPA is knowingly requiring an impossible task under the proposed rule... Based on the plain facts in the proposed rule, the proposed cost-benefit analysis is *impossible to comply with*.²⁶

EPA's proposed case-by-case decision making process will lead to years of delay, bureaucratic paralysis, and ineffective NPDES permits that fail to protect fish and aquatic ecosystems. State agencies simply cannot undertake stated preference surveys to monetize benefits and thus will zero out 97 to 98 percent of the benefits every time. EPA should take advantage of this opportunity to restore the BTA determination process to something more akin to the selection process that EPA first presented to OMB in early 2011. EPA should begin with closed-cycle cooling as the presumptive BTA technology and limit permit writers and applicants to a straightforward technical feasibility analysis. If closed-cycle cooling is not technically feasible, the permit writer should evaluate the next most protective technology.

The cost-benefit data are available and they are conclusive: closed-cycle cooling passes a cost-benefit analysis nationally and in every region. EPA's plan to re-open cost-benefit comparisons at every site will lead only to years of delay, conflict between regulators and permitted entities, enormous administrative complexity and expense, and radically skewed cost-benefit analyses at every facility in the country. Therefore, EPA should not allow any of the 1,260 site-specific BTA determinations to employ cost-benefit analysis.

F. If EPA Persists in Allowing Site-Specific Cost-Benefit Analysis, EPA Should Strictly Control How These Studies Are Performed and Should Mandate the Use of the Implied Prices from the Stated Preference Study as Minimum Values.

Historically, the site-specific cost-benefit estimates submitted by regulated facilities have routinely exhibited the same deficiencies found in EPA's previous cost-benefit estimates – they over-estimate costs and ignore 98 percent of benefits.²⁷ Unsurprisingly, companies that ignore

Department of Environmental Conservation comments regarding the Proposed Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities; Notice of Data Availability (NODA), dated March 19, 2003 (June 2, 2003) (appended to Riverkeeper's earlier comments as Exh. 104); NY DEC, Further Comments to the U.S. Environmental Protection Agency on its "Issues for Discussion at the Public meeting on September 10 and 11, 1998, Regarding §316(b) Rulemaking" held in Alexandria, VA (Oct. 5, 1998) (appended to Riverkeeper's earlier comment as Exh. 105).

²⁶ NYS DEC comments on proposed regulations for Phase I facilities, Docket no. EPA-HQ-OW-2008-0667, August 18, 2011, pages 15-16 (second emphasis added).

²⁷ As just a few examples, companies claiming that closed-cycle cooling cannot pass a cost-benefit test include FirstEnergy (at the Bayshore plant) and Dayton Power & Light (at the Stuart plant). *See, e.g.*, Letter from William L. Patberg, Attorney for Dayton Power & Light to Paul Novak, Ohio EPA (Apr. 9, 2003) (arguing that cooling towers would cost a quarter of a billion dollars but that "it is difficult to identify any environmental benefit at all" to their use). This letter was included as Exhibit 70 to Riverkeeper's previous comments (submitted Aug. 18, 2011). In addition, the Ackerman Comments refer to a similar contention made by PSEG (at the Mercer plant). Relevant excerpts from the PSEG study are submitted herewith as Exhibit 1.

non-use benefits frequently claim that closed-cycle cooling does not pass a cost-benefit analysis.²⁸ If EPA intends to allow site-specific cost-benefit analysis, even only in rare cases, it must set a clear framework that puts boundaries on how site-specific cost-benefit analyses will be performed.

One of the most important pieces of that framework are minimum estimates of non-use value or total willingness to pay, derived from EPA's stated preference study. For example, EPA found a national average willingness to pay \$1.13 per household, per year, for every percentage point increase in the number of fish saved from impingement and entrainment. EPA could require that states reject any benefits analysis based on implicit prices or a willingness to pay estimate that is lower than this benchmark value. If applicants or regulators can document a substantial basis to deviate upwards from EPA's estimates, this should be permitted. But contingent valuation of environmental goods is difficult and must be done with care and transparency because an applicant can significantly alter the results of a site-specific cost-benefit analysis by manipulating estimates of non-use values. As a safeguard against inaccurate estimation studies, EPA should not allow applicants to present non-use values for fish and aquatic ecosystems that are lower than those found in EPA's study.

Establishing the stated preference study results as a floor for non-use benefits valuations is necessary because permittees routinely exclude non-use benefits from their calculations. Further, even if a state regulator or a permittee attempted to monetize non-use benefits through a stated preference study, habitat replacement cost study, or other technique, they are unlikely to have the time or resources required to match the methodological rigor and scope of EPA's study.

In the Notice of Data Availability, EPA states that the implicit prices and benefits estimates from its survey are not directly transferrable to individual sites because the results depend on the background information provided to respondents.²⁹ But EPA has provided no evidence or explanation for why site-specific outcomes should deviate significantly from its survey results. And every possible measure or regulation will have varying costs and benefits from one location to another. In directing EPA to set national policies for cooling water intake structures, Congress determined that the cost of accommodating such individual differences was too high. More importantly, as stressed above, in the absence of EPA's survey results the default practice in most case-by-case BTA determinations today is to zero out the non-use benefits (as EPA effectively did for the proposed rule). Whatever slight difference may exist between EPA's national averages and actual willingness to pay under site-specific conditions, EPA's numbers are the most accurate available by a considerable margin and far better than a zero value.

G. EPA Cannot Ignore the National Willingness to Pay Estimates Derived from the Stated Preference Survey Unless It Eschews Cost-Benefit Considerations Entirely.

²⁸ See, e.g., Final Brief of Petitioners PSEG Fossil LLC and PSEG Nuclear LLC in Support of Vacatur and Remand of Portions of Final Rule, *Riverkeeper, Inc. v. United States Environmental Protection Agency*, No. 04-6692-ag(L) (2d Cir.), April 17, 2006, at 26-31 (arguing that "EPA improperly required evaluation of 'qualitative' non-use benefits in site-specific cost-benefit analyses").

²⁹ See NODA, 77 Fed. Reg. at 34,928 (col. 3) (June 12, 2012).

In the NODA, EPA warned that it “may present a range for the total national benefit estimates produced by the stated preference research” or that, alternatively, “EPA *may decide not to use the results from this study, and instead to consider non-use benefits qualitatively* and/or by using benefits transfer.”³⁰

As Professor Ackerman notes, the stated preference study “provides a valuable new data source describing key aspects of public sentiment and preferences about fisheries protection” and allows for less asymmetrical comparisons of costs and benefits. Overall, Professor Ackerman concludes that “EPA should be commended for advancing the state of knowledge on the issue.”³¹ While EPA is not legally obligated to consider costs and benefits under the Clean Water Act, if it does, it would be arbitrary, capricious, and an abuse of EPA’s discretion to ignore the results of the stated preference survey.

As Riverkeeper has explained previously, EPA is under no obligation to engage in a monetized cost-benefit analysis (or any other kind of cost-benefit analysis, for that matter). Indeed, EPA is abusing its authority in engaging in such extensive weighting of costs and benefits. Congress intended EPA to consider environmental benefits in non-monetized terms, avoid lengthy cost-benefit proceedings and futile attempts at comprehensive monetization, and take account of the CWA’s technology-forcing objectives. If used at all in developing cooling water intake structure requirements, cost-benefit analysis should be used only to prevent results that are absurd in light of extreme disparities between costs and benefits, for example through EPA’s traditional wholly disproportionate test.³²

The stated preference study confirms what EPA has known all along: the benefits of closed-cycle cooling are significant, and are certainly not wholly disproportionate to its costs. Indeed, the benefits clearly exceed the costs. All of the evidence in the administrative record to date shows that closed-cycle cooling is the best technology available for minimizing the adverse environmental impact of cooling water intake structures. Its use should be required at all existing facilities unless a retrofit is not technically feasible.

H. Documents Recently Released to Riverkeeper by the Office of Management and Budget Shed More Light on OMB’s Extensive Influence on the Proposed Rule.

Presidential Executive Order 12866 directs federal agencies to identify for the public all substantive changes made at the suggestion or recommendation of the Office of Management and Budget (OMB) during its review of a draft federal regulatory action. Pursuant to that order, EPA released a draft of the proposed cooling water intake structure regulation that it had submitted to OMB, marking all subsequent changes made at the suggestion and recommendation of OMB. As explained in Riverkeeper’s August 2011 comments, the redlined version of the proposed rule shows that in the final few weeks before the April 2011 proposal, the Office of Information and Regulatory Affairs (OIRA) within OMB took EPA’s illegal and weak rule and made it worse. The agency sent OIRA a proposal designed around a case-by-case format in

³⁰ See NODA, 77 Fed. Reg. at 34,930, col. 3 (June 12, 2012).

³¹ Ackerman Comments at 2.

³² See Riverkeeper’s previous comments, submitted Aug. 18, 2011, at pages 122-134.

which state permitting authorities would begin with a rebuttable presumption that closed-cycle cooling was the best technology available. EPA also sought to avoid making cost-benefit analysis a primary consideration, using it only to eliminate extreme results under a “wholly disproportionate” test. That regulatory approach was insufficient to begin with, but OIRA further weakened it, leaving a completely rudderless decision-making process that allows state agencies to consider an open-ended set of factors that the director deems to be “relevant” and then choose the technologies the director deems “warranted.” The Proposed Rule now invites those permitting directors to determine that “no additional control requirements are necessary beyond what a facility is already doing.” OIRA’s changes thus rendered the entire rule an elaborate ruse for doing nothing at all.

OIRA also gutted the requirements for replacement, repowered, and rebuilt power plants. The version of the proposed rule that EPA sent to OIRA would have required all replacements, repowerings, and rebuilt power plants to meet standards based on closed-cycle cooling because those plants have the ability to include closed-cycle cooling systems as part of the initial design of the rebuilt, repowered or replacement plant. But OIRA modified those provisions such that only “new units at existing facilities,” a very narrowly defined class of entities, now have to meet the closed-cycle cooling standards. That OIRA change would allow the operators of the worst fish-killing plants in the country to demolish their plants and rebuild entirely new plants from scratch without having to install modern equipment.

Executive Order 12866 also requires OMB to make available to the public, after publication of a proposed rule in the Federal Register by any federal agency, “all documents exchanged between OIRA and the agency during review by OIRA.”³³ But OMB has failed to comply with that requirement, thumbing its nose at the American public and hiding behind Section 10 of that same order, which prevents judicial review to enforce OMB’s obligations under the Executive Order. The Freedom of Information Act (“FOIA”) also requires disclosure of government documents, subject to certain exemptions, and is directly enforceable by courts. Thus, on May 19, 2011, Riverkeeper submitted a FOIA request asking that OMB make available for inspection and copying, among other things, all documents exchanged between OIRA and EPA during the interagency review period for the proposed rule.

Given the exigencies of the public comment period on the Proposed Rule, which at that time was to close on July 19, 2011, Riverkeeper asked OMB to make all responsive documents available as soon as possible. On May 20, 2011, OMB acknowledged Riverkeeper’s request but did not make any documents available. On June 28, 2011, Riverkeeper wrote to OMB again, repeating its document request and again emphasizing that time was of the essence in obtaining documents from OMB because the window to review and use those documents during the public comment would soon close. OMB did not respond to Riverkeeper’s second letter. Riverkeeper wrote a third time on July 18, 2011, reiterating its earlier requests and cautioning that unless OMB responded promptly, it would seek a court order compelling OMB to provide all records responsive to Riverkeeper’s May 19, 2011 FOIA request. OMB again failed to respond and was therefore in blatant violation of FOIA’s mandatory twenty-day response deadline set forth in 5 U.S.C. § 552(a)(6)(A)(i). Consequently, Riverkeeper sued OMB in federal court on July 25,

³³ EO 12866, § 6(b)(4)(D).

2011, seeking a court order compelling disclosure of the requested documents. *Riverkeeper, Inc. v. Office of Management and Budget*, U.S. Dist. Ct., S.D.N.Y. Case No. 11 Civ. 5109 (VB).

In light of the failure of the United States to timely comply with the mandatory disclosure requirements under FOIA, Riverkeeper and the other commenters reserved all of their rights in their August 2011 comments, including the right to submit comments and related documents to EPA after the close of the comment period.³⁴ Eventually, OMB produced redacted documents exchanged between OIRA and EPA during the OIRA review period. Those documents – while still hiding much of the substance that the Executive Order requires OMB to reveal – give a somewhat more complete window into the changes to the proposal made at the behest of OIRA and when those changes were made. Relevant documents released by OMB under FOIA are submitted herewith as Exhibit 2.³⁵ Those documents reinforce and support the discussion contained at pages 53 to 63 of the comments submitted by Riverkeeper and the other commenters on August 18, 2011.

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³⁴ See Riverkeeper's previous comments, submitted Aug. 18, 2011, at pages 54, n. 356.

³⁵ Riverkeeper has also submitted a separate FOIA request to OMB asking that OIRA make available for inspection and copying, among other things, all documents exchanged between OIRA and EPA during the interagency review period for the dual NODAs issued in June 2011. OMB has again failed to respond during the mandatory twenty-day response deadline set forth in 5 U.S.C. § 552(a)(6)(A)(i) and is thus once again in violation of FOIA (in addition to failing to comply with the Executive Order's disclosure requirements.) Consequently, the commenters again reserve all rights with respect to this matter, including the right to submit comments and related documents to EPA after the close of the comment period on this NODA in light of the current failure of the United States to timely comply with the mandatory disclosure requirements under FOIA.