

Best Technology Available (BTA) for Cooling Water Intake Structures

Response to Public Comments

1. The Draft BTA Policy is legally and substantively flawed (major departure from past BTA policies, requires plant shut down, allows for no variances, etc). Policy is really a rule and therefore SAPA has been violated.

Many commenters indicated that the Draft BTA Policy (“the Policy”) was a major departure from previous BTA policies or rules because it appeared to categorically require existing facilities to install and operate a closed-cycle cooling system if the Department determined that closed-cycle cooling was available at a particular facility. Commenters noted that, prior to issuance of the Policy, the Department and EPA allowed a facility owner to propose an alternative technology or suite of technologies for consideration that would result in a reduction in impingement mortality and entrainment equivalent to a closed-cycle cooling system. Some commenters noted that the performance goals allowed for an alternative suite of technologies on page 2 of the Policy but then appeared to contradict that goal later in the Policy.

The Policy has been modified to allow facility owners and/or permittees to have the flexibility to propose alternative technologies or a suite of technologies that would result in closed-cycle cooling equivalent reductions in impingement mortality and entrainment of aquatic organisms from cooling water intake structure (CWIS) operations at existing industrial facilities.

2. The Draft BTA Policy constitutes a change in past policy and this can be construed as arbitrary and capricious, or an abuse of discretion.

Rather than departing from past practices, the Policy merely synthesizes various legal and administrative decisions and procedures that have been followed by Department staff and approved by the Commissioner (and reviewing courts) for almost 10 years.

In response to this comment, the Department has revised the Policy to allow owners and/or permittees of existing facilities to propose technologies that will result in an equivalent reduction in adverse environmental impact as a closed-cycle cooling system.

3. The Draft BTA Policy is really a rule and therefore SAPA has been violated.

The Policy is not a rule, but merely synthesizes various legal and administrative decisions and procedures that have been followed by Department staff and approved by Commissioners (and reviewing courts) for almost 10 years, in implementing a cooling water intake regulation that has been in effect since 1974.

4. If the BTA Policy is finalized as drafted, the state constitution will not have been followed.

Consistent with the Clean Water Act (CWA) and State law, the Department is required to implement and enforce water quality standards, effluent limitations, and criteria to prevent, control, and abate pollution to waters of the State. This includes requirements related to cooling

water intake structures and thermal discharges. The Policy acknowledges and addresses the Department's legal obligations and does not raise any constitutional issues.

5. *The 3-page negative-declaration is inadequate and is a summary and not a reasoned analysis of "environmental impact". The Department's answer in the negative to the question "is there, or is there likely to be, controversy related to potential adverse environmental impacts" is incorrect.*

The Department does not agree with this comment. As established and reflected by the respective Commissioner's decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings, the "environmental impact" to be addressed by BTA determinations is limited to water quality and aquatic organisms, *i.e.*, entrainment and impingement. Other impacts associated with or stemming from the anticipated implementation of a provisional, site-specific BTA technology at a given facility can be addressed by the environmental impact review conducted on a project specific basis pursuant to SEQRA.

6. *The Draft BTA Policy will lead to impermissible taking of property.*

The Department does not agree with this statement. The issuance of a policy concerning the Department's interpretation and implementation of its well-established cooling water intake structure regulation (6 NYCRR § 704.5) will not impair any facility's perceived property rights, rights to water, or their ability to operate. Federal and State law mandate that the "location, design, construction and capacity of cooling water intake structures" reflect BTA for minimizing adverse environmental impact. The Policy, consistent with the Department's past practice, provides a facility with a variety of options to meet the stated performance goals, including those based on flow limitations. While a facility could choose to meet the policy's performance goals by reducing its intake flow (and adverse environmental impact) to a level commensurate with a closed-cycle cooling system, it could also select other compliance options that do not require flow or operating restrictions.

7. *The core principles of DEC's Draft BTA Policy are legally sound and environmentally protective.*

Several commenters agreed with the principles and precedent that formed the basis of the Policy. The Department notes and appreciates these comments.

8. *The policy is arbitrary and capricious because it fails to provide a basis for significantly increasing the required reduction in impingement/entrainment mortality.*

The Policy does not significantly increase the required reduction in impingement mortality and entrainment over previously stated impact reduction goals. The Department made it clear to the regulated community in a 2005 letter to EPA from Deputy Commissioner Lynette Stark ("the Stark letter") that the Department intended to "seek to impose [a]... 95% reduction in impingement and 90% reduction in entrainment in its SPDES permit process for existing facilities." The Policy merely synthesizes the goals and process developed by the Department in

the five years since the issuance of the Stark letter, and establishes clearly defined *performance goals*, not requirements. Furthermore, the Policy establishes these performance goals based on the universally recognized fact that installation of a closed-cycle cooling system is the best way to meet the CWA-based legal requirement to minimize adverse environmental impact from cooling water intake structures. Also, the Policy applies to new and repowered facilities where the EPA has already established *national performance standards* based upon the effectiveness of closed-cycle cooling systems in minimizing impingement mortality and entrainment. The Policy simply acknowledges the known benefits of closed-cycle cooling systems.

9. The Draft BTA Policy does not have the force of law and must clearly state that it is intended for the guidance of DEC staff, and staff may choose not to follow it for good cause in individual cases.

The Department agrees that DEC Commissioner policies do not have the force and effect of law. Once issued and in effect, a Commissioner policy cannot be ignored by staff. In this instance, however, the Policy itself recognizes that staff have the inherent discretion, in certain instances, to utilize BPJ in making provisional BTA determinations.

10. The State legislature has authorized the Department to require “available and reasonable methods” to prevent water pollution. Forcing closed-cycle cooling on generating stations using less than 50 MGD of cooling water is not reasonable.

The Policy establishes performance goals for minimizing the adverse environmental impact caused by cooling water intake structures in New York as required by Federal and State law. The performance goals apply only to the reduction in impingement mortality and entrainment and do not require any specific technology or suite of technologies to prevent water pollution. The Policy itself does not compel the use of any one technology or suite of technologies on any generating stations, let alone those that have a design capacity of less than 50 MGD. Furthermore, the performance goals established in the Policy only apply to facilities that are designed to use 20 MGD cooling water where at least 25 percent is used for cooling. Lastly, compliance with CWA § 316(b) and 6 NYCRR § 704.5 accomplishes the Legislature’s intent to prevent and abate water pollution.

11. The Draft BTA Policy fails to consider impacts to electric system capacity and reliability. For the sake of the public interest, the DEC must consider the impact of the proposed policy on electric power supply and should withdraw the proposed policy.

The Department consulted with the New York State Department of Public Service (DPS), the New York Independent System Operator (NYISO), and Independent Power Producers of New York (IPPNY) prior to and during the public comment period for the Policy and, as a result, has revised the Policy to take certain capacity and reliability concerns into consideration. In addition, comments provided by both DPS and NYISO indicate that as long as the Department provides flexibility in the Policy and keeps NYISO informed of BTA decisions for existing steam electric facilities, potential impacts to capacity and the reliability of the State’s electric grid will be avoided. In particular, NYISO stated in its comments to the Department that flexibility in

implementation of the performance goals (whether closed-cycle cooling or other technologies) at individual facilities will assure that grid reliability is not threatened.

The Department recognizes that, due to down time or connection outages needed to install technologies to meet the performance goals of the Policy, there may be limited, short-term interruptions that should be coordinated with DPS, NYISO, and the North American Electric Reliability Council (NERC) and, where possible, with normal scheduled facility maintenance operations. Nevertheless, the Department has provided flexibility in the Policy so that facilities can develop workable construction/installation schedules with DEC staff and coordinate with other appropriate entities to appropriately schedule down times.

In its *Economic and Benefits Analysis for Proposed Section 316(b) Existing Facility Rule* (2011) (page 5-21), EPA detailed how it conducted a reliability assessment on 3 of the rule options, 2 of which will require closed-cycle cooling for some of the existing facilities. Based on the assessment, EPA concluded that: "For the 8 NERC regions that were able to be analyzed under the downtime assignment concept outlined above, capacity loss due to 316(b) compliance technology installation is not expected to prevent any of these regions from meeting either the expected electricity demand or required reserve capacity margin under any of the three proposed regulatory options."

Lastly, as established and reflected by the respective Commissioner's decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings, the "environmental impact" to be addressed by BTA determinations is limited to water quality and aquatic organisms, *i.e.*, entrainment and impingement. Other impacts associated with or stemming from the selection and proposed implementation of a site-specific BTA technology at a given facility can be addressed by the environmental impact review conducted on a project specific basis pursuant to SEQRA.

12. DEC should withdraw the Draft BTA Policy and wait for EPA to issue the new Phase II Rule.

Several commenters believed that the Department should wait for EPA to issue a revised CWA § 316(b) Phase II Rule for existing facilities, stating that finalizing the Policy prior to EPA's action could lead to unnecessary conflicts and result in a policy that was not stringent enough. The Department disagrees. Waiting for EPA to issue a new Phase II Rule is neither necessary nor prudent. Since the Policy is not a rule and merely establishes performance goals, it could be made more stringent if the new Phase II Rule were to require this. Since New York has its own cooling water intake structure regulation (6 NYCRR § 704.5), the Department does not require federal action to implement policies or procedures on how to implement its state regulation. Moreover, CWA § 510 specifically authorizes a State to adopt or enforce any more stringent requirement respecting control or abatement of pollution. Thus, if EPA's newly issued Phase II Rule is more stringent than the Policy, DEC staff can adopt or enforce such requirements, as appropriate, via the SPDES permit process. Conversely, if EPA's newly issued Phase II Rule is less stringent than the Policy, DEC staff can adopt or enforce more stringent requirements, as appropriate, via the SPDES permit process.

13. DEC has no authority to require shut down or reduced output of electricity.

This comment has been noted and the Department has removed from the Policy any reference to *requiring* the shutdown of an electric generating facility as a technology option to minimize the impingement and entrainment of aquatic organisms under 6 NYCRR 704.5. Nevertheless, both the EPA and the Department have allowed operational measures, such as seasonal fish protection outages, to be utilized as an acceptable “technology” for controlling intake capacity as part of a BTA determination in the past and will continue to do so if proposed by an applicant or generator in the future on a case-by-case, site-specific BPJ basis.

14. The Department fails to recognize that 17,000 MW (45%) to 18,924 MW (51%) of the State’s energy generation may be removed or impacted by this policy.

The Department does not agree that the Policy will result in the loss of 45-51 percent of the State’s electric generation. The legal requirements behind the Policy have been in existence since the early 1970s when the federal CWA was amended to address, among other things, adverse environmental impact from cooling water intake structures. The amendments and corresponding implementation by New York have not resulted in any measurable removal of electric generation to the State.

The Policy makes public the performance goals and implementation process the Department has used and will continue to use to comply with existing legal requirements. Much of what is contained in the Policy has been used by the Department for the past decade and longer. Furthermore, the Department disagrees that the Policy will have a catastrophic effect on the State’s energy capacity. The installation and operation of the vast majority of technologies designed to minimize adverse environmental impacts to aquatic organisms use very little electricity. Though some existing electric generating facilities in New York may be required to install and operate closed-cycle cooling in order to comply with CWA § 316(b) and 6 NYCRR § 704.5, the industry’s own estimates indicate that this would result in a parasitic loss of approximately only 1 to 2 percent of total generating capacity at that facility (or approximately 3 to 12 MW depending on facility size). In addition, as noted by NYISO, the Department has made at least twelve BTA determinations for existing power plants in the past decade, and only two of those determinations (which are provisional in nature and subjects of ongoing administrative proceedings) have called for installation of closed-cycle cooling systems to comply with CWA § 316(b) and 6 NYCRR § 704.5. Those two closed-cycle cooling determinations, reflected in draft SPDES permits for the respective facilities, have not been made final by the Commissioner and, as such, are not yet in effect.

Several commenters were concerned that the outages required to install and upgrade technologies to meet the performance goals of the Policy would lead to additional impacts to the capacity and reliability of the electric grid. The Department is aware that the electric generating and transmission industry has a demonstrated ability to schedule and sequence unit outages in an efficient and reliable manner, and is confident that industry is capable of installing additional technologies to meet the performance goals of the Policy. See the Department’s response to comment # 11 for additional responses to the concerns raised by this comment.

15. The Department must indicate that any needed energy to replace parasitic losses can be made up with non-fossil fuels generation.

The Policy was never intended to specify the sources or types of fuels that might need to be used in order to generate energy to replace any potential parasitic losses necessitated by implementing the performance goals of the Policy. Existing law mandates that cooling water intake structures minimize adverse environmental impact to water resources and, as such, is interested in protecting aquatic organisms in the first instance. Sources of possible replacement power, if required at all, could include but not be limited to electricity generated by nuclear, hydro, solar, wind, and fossil-fueled sources (whether in-State or out-of-State).

16. The Draft BTA Policy does not indicate that the impact of its implementation on pollutant emissions (and their associated impacts on public health), noise, or visual impacts were studied or considered in any meaningful way. It is premature for DEC to adopt this policy; DEC must first review environmental, economic, and reliability impacts.

As established and reflected by the respective Commissioner's decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings, the "environmental impact" to be addressed by BTA determinations is limited to water quality and aquatic organisms, *i.e.*, entrainment and impingement. Other impacts associated with or stemming from the selection and proposed implementation of a site-specific BTA at a given facility can be addressed by the environmental impact review conducted for a specific project pursuant to SEQRA.

The majority of the available technologies that would be installed and operated at existing facilities in order to meet the performance goals of the Policy would have little, if any, impacts upon air emissions, noise or visual aesthetics. Moreover, such technologies have very discrete, limited and temporary environmental impacts associated with their installation and operation. The exception to this would be confined to a small number of existing facilities that could be required to install a closed-cycle cooling system to comply with 6 NYCRR § 704.5 and the performance goals of the Policy. For the few facilities where closed-cycle cooling is determined to be BTA, potential air pollutant emissions (and their associated impacts on public health), noise, and any visual impacts will be evaluated during the SEQRA review following the provisional BTA determination. The potential impacts are site specific and will be evaluated on a case-by-case basis for the particular facility at issue and, consequently, it would be premature for the Department to conduct any cumulative impact analysis in an attempt to assess the as-yet-unknown impacts that might be caused at a particular facility by implementing the Policy.

17. Policy ignores impacts on PM_{2.5}, NO_x, SO_x, BART, Hg, and Greenhouse gases.

As established and reflected by the respective Commissioner's decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings, the "environmental impact" to be addressed by BTA determinations is limited to water quality and aquatic organisms, *i.e.*, entrainment and impingement. Other impacts associated with or stemming from the selection and proposed implementation of a site-specific BTA at a given facility can be addressed by SEQRA. The majority of the available technologies that would be installed and operated at existing facilities in order to meet the performance goals outlined by the Policy would have little, if any, impacts on air emissions. However, where staff select a BTA technology that could have an impact on air pollution, those potential impacts will be evaluated

through a thorough environmental impact review for the specific project conducted pursuant to SEQRA following staff's provisional BTA determination.

18. Cooling towers introduce environmental impacts that may be adverse to certain ecosystems.

The Department understands that a closed-cycle cooling system could have localized environmental impacts that would need to be evaluated on a case-by-case, site-specific basis prior to requiring an existing industrial facility to utilize that particular technology. Those potential impacts will be evaluated through a thorough environmental impact review for the specific project conducted pursuant to SEQRA following staff's provisional BTA determination made in accordance with the Policy.

19. The Department must conduct a thorough economic impact analysis of implementing the Draft BTA Policy.

The Department disagrees with this comment. The Policy is solely intended to address and minimize the adverse environmental impact of a CWIS at particular facilities upon aquatic organisms. Consequently, the Policy could not and should not account for each and every economic impact that might be caused by implementing the performance goals set forth in the Policy at the dozens of facilities subject to the Policy across the State. The Department recognizes that economic impacts associated with meeting the Policy will need to be evaluated on a case-by-case, site-specific basis in conjunction with staff's provisional BTA determination made in accordance with the Policy for a particular facility. This will be done as part of the environmental impact review conducted for the specific project pursuant to SEQRA.

20. The term "wholly disproportionate" is defined in a way that differs from how that term has been applied in the past 30 years and is vague, irrational, and subjective. The definition in the draft Policy has not yet been tested in an adjudicatory proceeding at DEC or in court.

The Department disagrees with this comment. The term "wholly disproportionate" as used in the Policy is consistent with DEC Commissioner decisions concerning BTA determinations for both new and existing facilities in New York, as well as at least two judicial determinations resulting from such decisions.

21. The Department must allow for case-by-case decision making using site-specific cost-benefit analysis.

The Department disagrees with this comment. There is no requirement to use a cost-benefit analysis; however, the Department will consider whether the costs of the technology are wholly disproportionate to the benefit to be gained from its installation, and the Policy reflects this approach.

22. *The Department has not analyzed the “benefits” of reducing entrainment and impingement. Missing altogether from the proposed policy is any attempt to evaluate the benefits of reducing entrainment and impingement.*

The “benefit” determination was made prior to the final amendments of the Clean Water Act of 1972. In addition, the regulation requiring the minimization of entrainment and impingement mortality at industrial facilities does not require that any additional benefit analysis to be made. As established and reflected by the respective Commissioner’s decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings, the environmental benefit to be addressed by BTA determinations is limited to water quality and aquatic organisms, *i.e.*, entrainment and impingement. The Policy provides standardized procedures and performance goals for the implementation of CWA § 316(b) and 6 NYCRR § 704.5.

23. *New York State Environmental Conservation Law (NYS ECL) does not support the definition of Adverse Environmental Impact (AEI) in the policy.*

The Department agrees that the NYS ECL does not provide a definition of “adverse environmental impact” for purposes of BTA. The definition included in the Policy is the culmination of the EPA Phased Rule performance standards and case law: specifically that established under the Riverkeeper I and II decisions by the United States Second Circuit Court of Appeals. In both of these cases, the court decided that “...the EPA’s focus on the number of organisms killed or injured by cooling water intake structures is eminently reasonable.” Riverkeeper I 358 F.3d at 196. The Department specifically rejected the view that “the EPA should only have sought to regulate impingement and entrainment where they have deleterious effects on the overall fish and shellfish populations in the ecosystem, which can only be determined through a case-by-case, site-specific regulatory regime.” *Id.* The definition is also derived from the respective Commissioner’s decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings.

24. *The Department’s suggestion that the destruction of one fish egg or larvae constitutes an “AEI” triggering all the requirements of 6 NYCRR §704.5 is not, as DEC would have it, settled law.*

The Department did not make this suggestion in the Policy.

25. *The Draft BTA Policy reflects an unexplained and unjustifiable bias for early life stages of fish.*

Direct harm to one or more fish populations is not required as a prerequisite for a CWIS to have an adverse environmental impact. Riverkeeper I and II specifically rejected the view that “the EPA should only have sought to regulate impingement and entrainment where they have deleterious effects on the overall fish and shellfish populations in the ecosystem, which can only be determined through a case-by-case, site-specific regulatory regime.” 358 F.3d at 196. Both rulings emphasized that “the EPA’s focus on the number of organisms killed or injured by cooling water intake structures is eminently reasonable.” *Id.* This approach has been adopted

and approved by the respective Commissioner's decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings.

26. *It is reasonable to define the “adverse environmental impact” in terms of fish as a surrogate for all aquatic organisms but notes that this is a departure from the definition in case law.*

Comment noted. The Policy has been modified to include shellfish in the definition of adverse environmental impact, where shellfish is specifically defined as the horseshoe crab (*Limulus polyphemus*) and members of the Class *Decapoda* (lobsters, crayfish, crabs and shrimp).

27. *6 NYCRR §704.1 identifies the basis of environmental impact considerations associated with thermal discharges to which CWIS relate as the aquatic “population of shellfish, fish and wildlife”; nevertheless, the Policy ignores population considerations and focuses on numbers of organisms.*

The Department disagrees with this comment. 6 NYCRR §704.1 is a water quality standard for any and all thermal discharges to waters of the State and is independent from the BTA standard for thermal discharges associated with CWISs which are specifically regulated by 6 NYCRR §704.5.

28. *The harm to fish populations has not been proven.*

Direct harm to one or more fish populations is not required as a prerequisite for a CWIS to have an adverse environmental impact. Riverkeeper I and II specifically rejected the view that “...the EPA should only have sought to regulate impingement and entrainment where they have deleterious effects on the overall fish and shellfish populations in the ecosystem, which can only be determined through a case-by-case, site-specific regulatory regime.” 358 F.3d at 196. Both rulings emphasized that “the EPA’s focus on the number of organisms killed or injured by cooling water intake structures is eminently reasonable.” *Id.* This approach has been adopted and approved by the respective Commissioner’s decisions in the Athens Generating, Mirant Bowline, and Dynegy Danskammer administrative proceedings.

29. *Once-through cooling systems are not harmful to aquatic life populations in the waterbodies where New York’s nuclear plants are operating (no proof populations have been impacted by nuclear facilities).*

See the Department’s response to comment 28 above.

30. *Should define Adverse Environmental Impact at the population and not individual level.*

See the Department’s response to comment 28 above.

31. Definition of entrainment should be entrainment mortality and allow for through plant survival.

The Policy has been modified to make it clear that if a facility owner or permittee can demonstrate through-plant survival of entrained organisms by conducting mutually agreed upon site-specific studies, the Department will allow through-plant survival to be used in-part to meet the performance goals established by the Policy.

32. The proposed BTA Policy fails to recognize that existing generating facilities have adopted cooling water intake structure technologies other than cooling towers that already reduce impacts on aquatic resources.

The Policy clearly recognizes the effectiveness of technologies other than closed-cycle cooling and the Department is confident that, given the flexibility of the Policy, most existing facilities will be able to meet the performance goals by implementing one or more of these technologies.

33. The Athens decision did not mandate closed-cycle cooling at all new and repowered steam electric generating facilities.

The Department agrees with this comment but notes that the Phase I Rule promulgated by the EPA set a performance standard of closed-cycle cooling for new and repowered facilities. *See* Federal Register, Vol. 66, No. 243 at 65256. Moreover, the Mirant Bowline decision recognized that, pursuant to independent State law, the Department can be more stringent than federal requirements in its SPDES permit program, which includes BTA determinations.

34. Since the draft BTA Policy does not allow variances, if entrainment reductions do not meet the ninety (90) percent reduction, the only option for power plants where closed-cycle cooling is not available will be to reduce intake flows to achieve the ninety (90) percent standard.

The Department notes that the goal set by the Policy is not actually 90% reduction in entrainment but rather is the “equivalent” of closed-cycle cooling which the Department has defined as being 90% of the reduction in entrainment (and impingement mortality) that could otherwise be achieved by closed-cycle cooling. The Department recognizes that for some existing industrial facilities meeting the performance goal for entrainment may not be achievable with current technology options and operational measures and has allowed for the selection of an alternative entrainment reduction target for those few facilities, but only after all available options have been exhausted.

35. Ninety (90) percent performance goal is an arbitrary departure from existing DEC policy. DEC has applied a flexible performance goal in the past that allows for site specific issues to be considered.

The Department disagrees with this comment and notes that the goal set by the policy is not actually a 90% reduction in entrainment but rather is closed-cycle cooling or its “equivalent” which the Department has defined as 90% of the reduction in entrainment (and impingement

mortality) that could otherwise be achieved by closed-cycle cooling. The Department made clear in the Stark letter that the Department was going to “seek to impose [a]... 95% reduction in impingement and 90% reduction in entrainment in its SPDES permit process for existing facilities.” In addition, the Department continues to allow the facility owner or permittee to propose an alternative suite of technologies to that selected by the Department that would result in an equivalent reduction in adverse environmental impact.

36. Flexibility in implementation of the performance goals (whether closed-cycle or other) at individual facilities will assure the grid reliability is not threatened.

The Department notes this comment and has made changes to the Policy to allow for this level of flexibility.

37. The facility should always have the option of proposing an alternative suite to meet the stated performance goal. Riverkeeper I states this as a requirement under Section 316(b) CWA.

The Policy has been modified to allow the facility owner or permittee to propose an alternative suite of technologies or operational measures to meet the Policy’s stated performance goals at existing facilities.

38. A ninety (90) percent performance standard for entrainment reduction is not universally achievable with current technologies other than flow reduction; therefore, any policy must recognize that BTA determinations may approve alternative technologies that achieve lower levels of reduction.

The Department recognizes that for some existing industrial facilities meeting the performance goal for entrainment may not be achievable with current technology options and operational measures, and has allowed for an alternative site-specific entrainment reduction target for those few facilities but only after all available options have been exhausted.

39. The complex nature of fisheries biology and the differences among water bodies or locations within a waterbody are not recognized by the policy.

The Policy requires an evaluation of the impingement and entrainment of fish by a facility’s CWIS prior to reviewing technologies to minimize the impact. By necessity, this evaluation takes into consideration the species impinged and entrained, the relationship between facility operations and species life histories, and the nature and type of waterbody involved. In addition, the regulatory authority behind the Policy makes it clear that the location, design, construction, and capacity of an existing facility’s cooling water intake structure must be evaluated in order to make a site-specific BTA determination.

40. The Policy makes a broad assumption that a retrofit closed-cycle wet cooling system is easily accomplished.

The Department does not make any such statement in the Policy.

41. Imposing a harsh, technology-forcing rule statewide when that approach has been rejected at the federal level as “unreasonable” does not comply with the state legislature mandate to impose “available and reasonable methods” of pollution control that “conform to” federal requirements.

The Department is not establishing a “rule” with set standards but has developed a policy setting performance goals in order to meet existing regulatory requirements. The law and regulations that the Policy is based on are clearly technology-forcing [*i.e.*, CWA § 316(b) and 6 NYCRR § 704.5]. All three of the Phased Rules the EPA has promulgated since 2000 established performance standards based on specific technologies or a suite of technologies. Both the Phase I and Phase III Rules set performance standards based on the effectiveness of closed-cycle cooling technology. The now remanded Phase II Rule established performance standards based on the expected range of effectiveness by several technologies. The EPA clearly states that the performance requirements selected for the Phase I Rule are technology-based. *See* Federal Register, Vol. 66, No. 243 at 65256. The Policy itself does not compel the use of any one technology or suite of technologies on any existing industrial facility. Finally, compliance with CWA § 316(b) and 6 NYCRR § 704.5 accomplishes the Legislature’s intent to prevent and abate water pollution.

42. Prior to issuing the draft BTA Policy document, the Department’s policy has been to apply a flexible performance goal that varies depending upon the facts and circumstances of each facility and appropriately balances the benefits to fish populations with the costs and adverse impacts to electric system reliability and the environment.

The Policy has been modified to clearly indicate that existing industrial facilities will be allowed to propose technologies that achieve reductions in adverse impact that are equivalent to closed-cycle cooling. Thus, the Policy clearly indicates that BTA determinations will be made on a site-specific basis taking into consideration all facility-specific facts and issues.

43. No other technologies, other than closed-cycle cooling, can reduce the adverse environmental impact by 93-98 percent.

For over three decades, industry has been developing and improving a number of technologies that are highly effective at reducing the impingement mortality and entrainment of aquatic organisms by cooling water intake structures. Depending on the species and life stage of aquatic organisms impinged and entrained and the location of the intake structure, several technologies have been demonstrated to meet or exceed a 93-98 percent reduction in impact from baseline. For example, narrow slot-width wedgewire screen with a low intake velocity (less than 0.5 feet per second) eliminate impingement mortality. If the slot-width is narrow enough to physically block fish larvae and eggs and water currents are strong enough to sweep the physically blocked organisms off the screens, entrainment reductions can approach the range stated in this comment. Modified ristroph-type traveling screens with a well designed fish return system has resulted in the reduction of impingement mortality by well over 90 percent at some facilities in New York State.

The Department recognizes that there would be a high level of ongoing maintenance and proper operation for these technologies to meet these high reductions, but it is feasible. The advantage that closed-cycle cooling has over these other technologies is the assurance that the reduction will be maintained at all times since the overall use of surface waters is reduced by 93 to 98 percent from that used by a once-through cooling system.

44. Though most commenters favored the stated fifteen (15) percent operating capacity exemption to the performance goals of the draft Policy, the application of this exemption was not clear.

The Department has made changes to this exemption clause in the Policy to remove the ambiguity. An existing electric generating facility operated at less than fifteen (15) percent of its electric generating capacity over a current 5-year averaging period (also known as peaking facilities) would only be subject to the impingement mortality performance goal of the Policy. For these facilities, site-specific entrainment reduction targets will be determined by the Department on a case-by-case basis.

45. The Department should allow an exemption for facilities that use less than 15 percent of total water withdrawn for industrial cooling.

The Policy has been modified to provide an exemption to the performance goals established by the Policy for facilities where less than 25 percent of the industrial water required is used for cooling purposes. This exemption conforms to an EPA established exemption contained in the three Phased Rules. *See* 40 C.F.R. Part 125 subpart I; 40 C.F.R. Part 125 subpart J; 40 C.F.R. Part 125 subpart N.

46. Policy must consider a nuclear exemption.

The Department does not agree that a specific exemption for nuclear energy fueled steam electric facilities is required. However, to assure that Nuclear Regulatory Commission (NRC) safety issues are adequately considered in making a BTA determination for nuclear fueled steam electric facilities, the Department added a specific clause to ensure that the implementation of the performance goals established by the Policy would not result in a conflict with any health and safety requirement established by the NRC.

47. Facilities with BTA determinations should be given some exemption to the policy to see the current required BTA installation and verification studies to completion.

The Policy has been modified to include an allowance for the completion of verification studies prior to determining if additional adverse impact reductions are necessary for a facility that is currently installing or that has recently (since at least 2003) been required to install technologies as BTA under 6 NYCRR § 704.5.

48. Facilities that use less than 50 MGD should be held to an alternative performance goal.

The Department does not agree with this comment and has included no such exemption or alternative performance goal based on the use of less than 50 MGD cooling water.

49. The definition of baseline calculation contained in the draft BTA Policy is correct.

The Department notes this comment.

50. The use of full-flow may be inappropriate in certain instances and lead to inaccurate reporting of results and should be evaluated on a plant-by-plant basis so that relevant factors are examined.

The Department notes this comment but the Department has not yet found an instance where the use of the capacity of the cooling water intake structure in the calculation baseline was inappropriate.

51. The implication of language in the document (particularly the numerous references to DEC making determinations and requiring actions) is that DEC determinations are equivalent to decisions by the Commissioner. The draft Policy should be revised to clearly identify the appropriate decisional authority for the various steps that must be taken.

The Department agrees with this statement that final BTA decisions are made by the Commissioner and not staff. Some minor language changes were made to the Policy to reflect and clarify this.

52. All [legal] loopholes or variances should be eliminated so that the optimal solution for antiquated plants is achieved.

The Department does not believe there are legal loopholes in the Policy nor does the Department agree that there should be no variances or exemptions to the performance goals stated in the Policy.

53. Once DEC makes a BTA determination, the BTA determination should remain in place for the next 20 years as a matter of equity and in order to provide business certainty.

The Department can place no specific longevity on a BTA determination of any technology-driven regulation. Performance goals, requirements, and standards will change over time reflecting technology improvements. Additionally, the Department's policies must reflect changes to rules and regulations promulgated at the federal level so any performance goals established by the Policy are subject to change based on federal actions. Since all BTA decisions are reflected in a SPDES permit, the Department is bound by ECL §17-0817 to review all existing SPDES permits for conformance with standard "at least once every five years."

54. The Department must take action to minimize, and ideally eliminate, the waste of fisheries resources caused by the impingement and entrainment of fish eggs, larvae, juveniles and adults in the cooling systems of power plants and other industrial facilities.

Several commenters believed that the performance goals established by the Policy would make great progress in reducing the mortality of all life stages of fish by the operation of cooling water intake structures. The Department agrees with these statements.

55. Existing “once-through” cooling systems make a significant contribution to the mortality of important estuarine and anadromous species, including American shad, river herring, weakfish and winter flounder, populations of which are currently at or near historic lows.

The Department clearly recognizes that several important estuarine and anadromous fish species are in serious decline and require steps to reduce unnatural mortality. This recognition is in part what led the Department to establish the performance goals contained in the Policy. It should be noted, however, that the impingement mortality and entrainment caused by cooling water intake structures is only one of many sources of unnatural mortality on these estuarine and anadromous fish species.

56. Definition of repowering is overbroad, unreasonable, and will produce unintended results.

The definition of “repowering” has been removed from the Policy.

Citations:

Riverkeeper I: *Riverkeeper, Inc. v. EPA*, 358 F.3d 174 (2d. Cir. 2004).

Riverkeeper II: *Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d. Cir. 2007).

National Pollutant Discharge Elimination System: Regulations Addressing Cooling Water Intake Structures for New Facilities; Final Rule, 66 Fed.Reg. 65,255 (Dec. 18, 2001) (codified at 40 C.F.R. pts. 9, 122-25 [Phase I Rule]).

National Pollutant Discharge Elimination System: Regulations to Establish Requirements for Cooling Water Intake Structures at Phase II Existing Facilities; Final Rule, 69 Fed.Reg. 41,576 (July 9, 2004) (codified at 40 C.F.R. pts. 9, 122-25) [Phase II Rule].