

Responses to Comments on December 13, 2006 for Amendments to 6 NYCRR 700-704
Final September 26, 2007

**ISSUES AND RESPONSES BASED ON COMMENTS ON DECEMBER 13, 2006
PROPOSED RULE TO AMEND 6 NYCRR PARTS 700-704**

LIST OF COMMENTORS (AND ABBREVIATED DESIGNATIONS)

Commentors in Writing (includes electronic submittals):

American Fisheries Society - New York State Chapter (“American Fisheries Society - NYS”) [electronic, from Randy Vaas]

American Rivers [electronic, from Stephanie Lindloff via DOW Info]

Lorraine, Charles and Sam Benzing, citizens (“the Benzings”) [electronic]

The Business Council of New York State, Inc. (“The Business Council”) [paper]

Casella Waste Systems, Inc. (“Casella“) [electronic, from Karen Flanders]

Copper Development Association, Inc. (“Copper Development Association”) [electronic, from Ray Arnold]

John Droz, a citizen [electronic]

Dutchess County Water and Wastewater Authority (“Dutchess Co. WWA”) [electronic, from Scott Chase]

Entergy Nuclear Indian Point 2, LLC, Entergy Nuclear Indian Point 3, LLC, Entergy Nuclear Fitzpatrick, LLC, and Entergy Nuclear Operations, Inc. (“Entergy”) [electronic, in 2 parts, from Robert Fitzgerald]

Interstate Environmental Commission (“IEC”) [electronic, from Howard Golub]

Bruce McLean, a citizen [electronic]

The Nature Conservancy [electronic, from Colin Apse]

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New York City Department of Environmental Protection (“NYCDEP”) [paper, but also have electronic copy]

New York State Association for Solid Waste Management (NYS ASWM) [paper]

New York State Turfgrass Association, Inc. (“Turfgrass Association”) [electronic, via DOW Info]

Oneida-Herkimer Solid Waste Authority (“Oneida-Herkimer SWA”) [paper]

Peek’n Peak Resort and Conference Center (Peek’n Peak”) [paper - via Gov. Ofc.]

Scensible Source Co. (“Scensible Source”) [electronic]

Shanty Hollow Corporation (“Shanty Hollow”) [electronic, from Vicky Schlierer]

Ski Areas of New York (“SANY”) [paper]

Syngenta Crop Protection (“Syngenta”) [electronic, in several parts]

Trout Unlimited Clearwater Chapter (“Trout Unlimited - CC”) [electronic, from Ron Boutin]

Trout Unlimited - Eastern Water Project and New York Council (“Trout Unlimited - EWP - NY”) [electronic, from Kirt Mayland]

Commentors Who Provided Oral Comments at the February 5, 2007 Public Hearing:

Charles Breckenridge - Syngenta Corporation (“Syngenta - oral”)

Dirk Gouwens, Ski Areas of New York (SANY - oral)

Kirt Mayland, on behalf of Trout Unlimited and its New York Council (Trout Unlimited - oral)

Rebecca Shirer, The Nature Conservancy, New York State Chapter (The Nature Conservancy - NYS - oral) Tom West, on behalf of Ski Areas of New York (Tom West - SANY - oral)

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LIST OF ISSUES AND RESPONSES, BY ISSUE

Note: All comments identified below were received in writing from the public, unless specifically noted otherwise.

A. ISSUES RE RULE MAKING PROCESS OR DOCUMENTS

-----Issue Raised: A-1 - Need to Address Groundwater Extraction in RIS

A citizen (John Droz) noted that the Regulatory Impact [Statement] lacks mention of the “enormous” threat New York faces from wholesale groundwater extraction. Commentor asked that DEC revise sections 3-a, 3-b, and 3-d (pp 8-9) of the RIS to add comments about the significant problem of fresh groundwater and aquifer extraction, and provided citations for references.

Response A-1:

The New York State Department of Environmental Conservation (DEC; the Department) acknowledges that groundwater extraction can be a concern, but does not believe that it is necessary to revise the RIS as the commentor suggests. While the RIS contains various reasons for adding a standard to address alterations to flow, it is not necessary for the RIS to encompass every possible reason for doing so. However, DEC believes that impairments of best uses of waters that result from reduced surface water flow due to groundwater withdrawals, can be addressed reactively via the proposed narrative flow standard.

Issue Raised: A-2 - Request for Additional Time to Comment (Copper)

The Copper Development Association states that the basis for the proposed groundwater effluent limitation for copper is not transparent and appears to be arbitrary and capricious. Commentor requests that DEC provide a scientific rationale, and allow additional time to comment on the scientific

merit of the reduction in the copper standard.

Response A-2:

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See Issue/Response F-61.

B. ISSUES OF A BROAD OR GENERAL NATURE

Issue Raised: B-1 Narrative Standards [general issue]

The Oneida-Herkimer SWA requested that the use of subjective narrative water quality standards be removed from the water quality standards.

Response B-1:

According to US EPA [Federal Register Vol. 63, July 7, 1998 pp 36742-36806], narrative criteria can be an effective tool for controlling the discharge of pollutants when numeric criteria are not available. Narrative criteria were first derived in 1968 and continue to be used in state and tribal water quality standards, and apply to all waters of the US at all flow conditions. Narrative (free from) criteria guidance indicates that all waters be free from substances, for example, that (a) cause toxicity to aquatic life or human health, (b) settle to form objectionable deposits, (c) float as debris, oil, scum and other materials in concentrations that form nuisances, (d) produce objectionable color, odor, taste or turbidity, or (e) produce undesirable aquatic life or result in the dominance of nuisance species.

The use of numeric water quality standards is a reasonable goal where numeric water quality standards are feasible and do not create obstacles to implementation. However, there are examples where narrative water quality standards are the best choice for providing the necessary protection to a water body and its associated uses.

For example, the use of the narrative water quality standard for contrast to natural conditions (turbidity) is considered necessary to account for site specific concerns and use protection. It also allows for a simplicity in implementation (the use of photographs to demonstrate violations) that has been very successful in controlling pollution due to erosion. Experience in enforcement of stormwater rules suggests the value of this flexibility and simplicity in implementation.

Related to turbidity are narrative criteria for suspended and settleable solids. The US EPA addresses ambient levels of suspended and settleable solids from a water quality criteria perspective in a 1986 document entitled “Quality Criteria for Water” (known as the “Gold Book”). EPA defines suspended and settleable solids as the organic and inorganic particulate

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matter in water.

The Gold Book describes the potential impacts to aquatic life from elevated levels of suspended and settleable solids. Impacts to fish from elevated levels of suspended solids can occur both within the water column and at the bottom of the water body. The documented effects of elevated levels of suspended solids on aquatic organisms are as follows:

- acute and chronic impacts to fish within the water column, including death, reduction in the rate of growth, and, decreased resistance to disease;
- prevention of the successful development of fish eggs and larvae;
- modification of the natural movements and migration of fish; and,
- reduction of the availability and abundance of food for fish.

Increased levels of total suspended solids (TSS) may greatly affect water use by limiting light penetration, known as turbidity. Suspended solids also reduce light penetration into the water body, decreasing primary production, and resulting in decreases in the levels of food for fish and other organisms. The EPA criterion states that solids should not reduce the depth of the compensation point (penetration of sunlight) for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life.

Settleable solids accumulate on the bottom of water bodies and impact invertebrate populations, and block gravel spawning beds. The Gold Book references case studies which have shown that increases in settleable solids have significantly reduced the benthic invertebrate populations, in some worst cases by smothering these organisms.

More recently, EPA's Fact Sheet: Framework for Developing Suspended and Bedded Sediment (SABS) Water Quality Criteria [EPA-822-F-06-001, May 2006] states that "Increased turbidity reduces visual acuity and capture success for predators and foragers, stimulates drifting behavior in macroinvertebrates, [and] reduces habitat suitability and habitat range for organisms that require clear water."

Issue Raised: B-2 - Oncogenic Pollutants

A citizen (John Droz) appreciates and strongly agrees with the emphasis on refining and tightening the limits of potentially oncogenic pollutants.

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Response B-2:

DEC acknowledges the comment but clarifies for the record that the only substances for which standards based on oncogenic effects are proposed are metolachlor, acetaldehyde, and formaldehyde, and these are new standards, rather than revisions. DEC will continue to add/revise standards for other oncogenic substances in future rule makings as needed.

C. ISSUES RE PART 700

Issue Raised: C-1 - Definitions Related to 704.5 - Cooling Water and Cooling Water Intake Structure [700.1]

Entergy appreciates DEC's efforts to provide definitions to implement 6 NYCRR 704.5 in a consistent and appropriate fashion throughout New York State. They laud DEC's proposal of definitions for cooling water and cooling water intake structure that are consistent with similar definitions (in 40 CFR 125.83) used by US EPA to implement section 316(b) of the Clean Water Act.

Entergy acknowledges DEC's contention that 704.5 is separate from US EPA's efforts under 316(b), but notes that 6 NYCRR 704.5 is virtually identical to, and modeled on CWA 316(b); thus similar definitions would be the presumptive norm.

Response C-1:

DEC acknowledges Entergy's support for the definitions. The similarity and differences between 704.5 and 316(b) are addressed under 704.5, below.

Issue Raised: C-2 - Definitions for Fish, Shellfish, and Wildlife [700.1]

Entergy supports the definitions that DEC has proposed for these terms. These definitions have been properly proposed, in a manner consistent with applicable New York law, federal guidelines, and

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the settled practice of fisheries scientists.

The lack of definitions for these terms in existing [DEC] regulations creates ambiguity as to whether these terms (and implicitly the water quality standards) focus, for example, on the propagation and survival of individual fish or a population or species of fish. The proposal quite appropriately resolves this ambiguity by clarifying that the water quality standards are intended to protect species or populations (and not individuals) of fish, shellfish and wildlife. Commentor provided support from dictionary definitions.

The focus on species or population level is entirely consistent with well established principles of environmental management (e.g., the Magnuson-Stevens Fishery Conservation Act). Population or larger assembly is also the appropriate focus (ecosystem relevance) for ecological risk assessment, except for endangered species. Entergy attached an affidavit from Lawrence W. Barnhouse in support of consistency of regulatory definitions for these terms with the way they are used in natural resource management and ecological relevance.

Response C-2:

Entergy states that its comments “focus on a narrow aspect of the [rulemaking] Proposal, namely the Department’s efforts to provide needed definitions to implement 6 NYCRR §704.5 (“§704.5”) in a consistent and appropriate fashion throughout New York State.” Entergy asserts that, with respect to the regulatory terms “fish”, “shellfish”, and “wildlife”, there has been “some ambiguity as to whether these terms (and, implicitly, the water quality standards) focus, for example, on the propagation and survival of individual fish or a population or species of fish.” Entergy further asserts that the definitions for these terms in the proposed rulemaking resolves that ambiguity “by clarifying that water quality standards as intended to protect species or populations of fish, shellfish, and wildlife rather than each individual fish, shellfish or member of a wildlife species.” Entergy’s assertion is not accurate.

The Department has not defined “fish”, “shellfish”, and “wildlife” in rule, policy, guidance, or practice to mean only population-levels of these organisms. The definitions in Part 700 are provided for a broad set of regulatory provisions that encompass at least the ambit of Parts 700 - 704, and are also available for use as appropriate in other regulatory programs that can rely on Part 700 definitions to protect the State’s natural resources. In order to fully support that broad function or purpose, the Department’s proposed definitions for the terms “fish”, “shellfish,” and “wildlife” are neither focused strictly on populations of fish nor exclusive of individual members of species. For instance, the proposed definition of “fish” is “all varieties of the super-class Pisces,” articulating how one would identify an organism. However, that definition does not dictate whether the process of identification is attributed to a single fish or a group of fish (population level).

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Consequently, contrary to Entergy's assertion, these definitions support Department Staff's protection of individual fish, shellfish or wildlife organisms. This is illustrated by the history of decisions illustrating very clearly that the Department and EPA comprehend fish protection programs on the basis of individual organisms, rather than strictly on a population basis:

- 1) *Riverkeeper v EPA*, 475 F.3d (Fn 36). "The statutory structure thus indicates that Congress did not intend to limit 'adverse environmental impact' in section 316(b) to population-level effects."
- 2) Commissioner's Interim Decision in Athens Generating Company, LP (June 2, 2000), Page 9 (Fn 5). "The threshold for what constitutes an "adverse" impact is a relatively low one."
- 3) Commissioner's Decision in Mirant Bowline, LLC (March 19, 2002), Page 17. "In the present case, it is undisputed that the proposed CWISs in Bowline Pond will result in adverse environmental impacts, 'specifically fish mortalities'." (Citation omitted.)
- 4) *Riverkeeper v. EPA*, 358 F.3d 174, 191 (Phase I Challenge, Feb. 3, 2004). "We think that the EPA's focus on the number of organisms killed or injured by cooling water intake structures is eminently reasonable."
- 5) Commissioner's Decision in Danskammer (May 24, 2006), Page 21. last sentence, first paragraph "The ALJ's BTA analysis (see Hearing Report, at 78-85) is comprehensive and well-reasoned, and I concur with the ALJ's conclusion that the conditions set forth in the revised draft SPDES permit for this facility represent BTA for minimizing adverse environmental impacts." See page 80 of Administrative Law Judge Daniel O'Connell's Hearing Report. "The threshold for determining whether any facility's cooling water intake structure would result in any adverse environmental impact is very low." In addition, in a letter dated August 7, 2002, Lynette Stark, the Department's Deputy Commissioner for Natural Resources, stated that any "entrainment or impingement mortality would be considered an adverse environmental impact."
- 6) *Riverkeeper v EPA*, 475 F.3d 83, 125 (Phase II Challenge, Jan. 25, 2007). "We 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.' " Despite Entergy's assertion to the contrary, the Magnuson-Stevens Fishery Conservation Act program, 16 U.S.C. §1801, et seq., does not impose on the Department any population based management principles on implementation of New York State's water quality standards programs, for instance, the New York State Pollutant Discharge Elimination System ("SPDES") permit program. As noted in the above-cited decisions, a BTA determination utilizes a site-specific consideration of adverse impacts, including the number of mortalities of

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individual organisms (e.g., fish, larvae, eggs). Employing the “low threshold” for determining whether a cooling water intake structure creates adverse impacts logically and reasonably provides for taking the mortalities of individual organisms into account. Entergy also asserts that this rulemaking should define the phrase “adverse environmental impact.” Department Staff have not found any flaw or ambiguity in the phrase as used in 6 NYCRR §704.5 and, consequently, it is not a subject of this rulemaking. As is evident from the above-cited decisions, for the purpose of managing the State’s water quality standards, this phrase has been sufficiently discussed by the Department’s Commissioner and by other reliable authorities. This obviates the need to express any further definition in a regulation.

Entergy asserts that adoption of the proposed amendments to the State’s water quality standards first requires consideration of the state-wide impact of the Department’s implementation of 6 NYCRR §704.5. It further asserts that the scope of that exercise should include accounting for the purported impact of “minimizing [the] adverse impact” of cooling water intakes on the State’s electric generating capacity and associated impacts to air quality by virtue of increased air emissions from replacement power sources. To the contrary, as noted above, the Department has determined that a definition of “adverse environmental impact” is unnecessary and inappropriate, given that the aforementioned decisions direct how BTA determinations are to be made. Entergy’s perspective on rendering a definition of “adverse environmental impact” appears not to account for those decisions; it is Staff’s view that Entergy’s assertion may be more pertinent to a discussion of whether a specific permit application could be affected by particular facts in the context Entergy describes. For the purposes of this rulemaking, Entergy’s discourse on the putative impacts of the Department’s implementation of §704.5 is conjectural and speculative. It may be relevant on a case-by-case basis pertaining to individual SPDES permit applications; however, that has not been the function of this rulemaking and might be better addressed in the context of a particular permit application.

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D. ISSUES RE PART 701

Issue Raised: D1 - Best Usages: Shellfish and Wildlife Propagation and Survival [701]

Two commentors (American Rivers and The Nature Conservancy) support the addition of “shellfish and wildlife” propagation and survival to the best usages of state waters. This change better reflects the necessary and appropriate management goal of maintaining the full-range of biological integrity of aquatic systems.

Response D1:

DEC acknowledges the support for this addition.

Issue Raised: D-2 - Prohibition Against Sewage Discharge [701]

A citizen (John Droz) believes that some of the class descriptions in 701 are too lax and that New York would not want any sewage to be dumped into waters to be used for drinking purposes. However, only Class AA-S (in 701.3) includes a written prohibition against sewage. The statement (as exists in 701.3 for AA-S), “There shall be no discharge or disposal of sewage, industrial wastes or other wastes into these waters” should be added to 701 for Classes AA, A-S, A, and GA.

Response D-2:

DEC believes that the existing fecal and/or total coliform standards in Part 703 are sufficiently protective of human health and the best uses for Class A, A-S, AA, and GA waters, and that no revision to the class descriptions in Part 701 is needed. Fecal coliform standards apply to Class A and A-S waters, and total coliform standards apply to A, A-S, AA, and GA waters. Fecal and total coliform bacteria, which are diluted and die off in the receiving water, are limited at the levels that are protective of human health and dilution is not allowed when calculating the limit.

The existing standard of 200 for fecal coliform for Class A and A-S waters is sufficient to protect their best uses, given that disinfection and other forms of treatment are necessary for use as a source of potable water supply (as noted in Part 701). Although Class AA and GA waters do not have fecal coliform standards, they do have a highly stringent total coliform standard of 50. This would include, and be highly protective against, fecal coliforms.

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See also Issue/Response F-53 and F-54.

E.

ISSUES RE PART 702

Issue Raised: E-1 - Standards and Guidance Values for Recreation Use [702.1; 702.12]

This comment was raised internally within DEC. Does the proposed new Type of standards and guidance values (for Recreation) and corresponding procedures for deriving such standards and guidance values in 702.12 create a new area that is subject to regulation, of “recreational aesthetics”?

Response E -1:

The new Type (Recreation) of standards and guidance values, is solely intended to protect for the human uses of primary and secondary contact recreation. It is intended to allow the derivation and establishment of standards and guidance values to protect that use; for instance, for pathogens or pathogen indicators (related to swimming), turbidity (related to swimming safety), nutrients, and plant growth (both as relate to suitability for primary and secondary contact recreation. DEC is making some minor changes to the language of 702.12 in the final rule to clarify the intent of this section. The revised second sentence of 702.12(a) will now read, “Such values are referred to as Recreation values and derived based on an evaluation of reported levels of the pollutant (such as pathogens or pathogen indicators, nutrients or vegetation) that affect the quality of the water and its suitability for primary and secondary contact recreation.”

Issue Raised: E-2 - Standards and Guidance Values for Recreation Use [702.1; 702.12]

The Business Council stated that the new category of recreational use seems warranted, especially for bacterial criteria.

Response E-2:

DEC acknowledges The Business Council’s support for this revision.

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Issue Raised: E-3 - Standard-Setting Procedures (General) [702]

The Business Council believes, on balance, that the methodological changes are needed, warranted, scientifically appropriate, and consistent with recent US EPA guidance on the development of water quality standards.

Response E-3:

DEC acknowledges The Business Council's support for these revisions.

Issue Raised: E-4 - Standard-Setting Procedures for Carcinogens and Non-Carcinogens [702.4 and 702.5]

The Business Council supports the proposed changes to procedures for deriving standards for carcinogens as a distinct improvement. The proposed methods reflect the current thinking on this issue and provide DEC with the needed flexibility to use models other than the current default, i.e., linearized multistage mode. The models described are from US EPA's Benchmark Dose software and are appropriate. The procedures for noncarcinogens are noted as not being significantly changed.

For both carcinogens and noncarcinogens, the proposal's consideration of the potentially increased sensitivity of children and the other methodology changes, are consistent with US EPA's Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000). The Business Council believes that federal and state regulatory agencies will continue to place increased emphasis on protection of children.

Response E-4:

DEC acknowledges The Business Council's support for these revisions.

Issue Raised: E-5 - Mixtures Default [702.15]

The Business Council notes that the amendments include a proposed default standard of 100 g/L for mixtures, with gasoline and Stoddard Solvent listed as examples. This default is probably

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reasonable for mixtures lacking appropriate toxicity values.

Response E-5:

DEC acknowledges The Business Council's support for this provision. To clarify however, DEC has not proposed a default standard for mixtures. The proposal includes, at 702.15, a procedure by which guidance values of 100 ug/L can be derived. Any guidance value(s) derived according to these procedures would undergo public review before being finalized.

F. ISSUES RE PART 703

Note Regarding Turbidity: Turbidity standards are proposed in 703.2 for class A-S waters, and in 701.3 for Class AA-S waters. All issues regarding turbidity [including the proposed and existing standards] are grouped here, within Part 703.

Issue Raised: F-1 - Turbidity [701.3]

American Rivers supports, with caveat, the addition of the narrative turbidity standard to 701.3 for Class AA-S waters. American Rivers fully understands the need to implement such a regulation with respect to the enforcement of traditional development activities. However, rigid application of the standard with respect to restoration activities could be detrimental to achieving long term and sustainable environmental gains. The concern is supported by the preamble to 48 FR 51402 which permits states to allow some limited activities that result in temporary (weeks and months) and short term changes in the highest quality of waters (e.g., Outstanding Natural Resource Waters).

Given the objective of the Clean Water Act to restore and maintain the chemical, physical and biological integrity of the Nation's waters, DEC should consider, and when supported by best management practices, allow, for all waters of the State, temporary and short-term changes in water quality for the purpose of implementing aquatic restoration activities that will result in long-term and naturally sustainable benefits.

Response F-1:

DEC agrees with the spirit of this comment that very temporary changes in water quality (including increased turbidity) might be necessary for the greater purpose of implementing aquatic restoration activities that will result in long-term and naturally sustainable benefits.

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However, both the magnitude and duration of such changes should be as limited as possible and should not extend for months or even weeks. A very temporary increase in turbidity might be allowed while preparing to conduct a project such as a dam removal, but any increase would have to be contained during the actual removal work. Any such temporary increase would not be allowed if it would have a permanent or irreversible impact. Such activity would require a permit under ECL Article 15, as it relates to stream disturbance or navigable waters.

Issue Raised: F-2 - Turbidity Standard Should be Deleted [703.2]

Two commentors (The Business Council and Oneida-Herkimer SWA) raised this issue; their comments are combined herein. The subjective narrative turbidity standard should be deleted from 6 NYCRR 700 - 704 and from all other State regulations in which it is utilized. These attributes can be effectively protected through other water quality standards and permitting mechanisms. The standard should be replaced with an objective, quantifiable means of measuring turbidity such as NTUs or total suspended solids (statewide standard with a site specific option). Water standards should be established based on demonstrated effects on human health and the ecological systems in the aquatic environment.

Response F-2:

See Issue/Response B-1.

Issue Raised: F-3 - Turbidity Standard Vague, Wide-Ranging, and Should be Revoked [703.2]

Four commentors (Casella, The Business Council, Oneida-Herkimer SWA, and NYS ASWM) raised this issue; their comments are combined herein. The narrative standard, “no increase that will cause a substantial visible contrast to natural conditions” is vague and poorly defined, which leads to significant difficulties in interpretation and compliance for the regulated community. Turbidity in water is affected by several factors including suspended solids, such as sediment, caused by natural and anthropogenic sources. The standard does not identify what is natural vs. anthropogenic. Substantial visible contrast is not defined in the narrative standards nor in the

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ECL. The lack of both definition and established protocol or methodology for determining when a substantial visible contrast exists is subjective and open to varied interpretations and uneven application of the standard statewide. The narrative standard does not provide indicators, criteria or target values to help determine environmental impact caused by turbidity (sediment). Narrative standards are difficult to interpret and most do not define a measurable point of compliance.

Response F-3:

See Issue/Response B-1

Issue Raised: F-4 - Unequal Application of Turbidity Standard Violates Equal Protection Rights [703.2]

Two commentors (Oneida-Herkimer SWA and The Business Council) stated that the lack of both definition and established protocol or methodology for determining when a “substantial visible contrast” exists makes it subjective and open to varied interpretations. The resulting uneven application of the standard statewide treats the regulated public unequally in violation of their equal protection rights.

Response F-4:

The Department has proposed an amendment to the New York Codes, Rules and Regulations (NYCRR) Article 6, part 700, which, in part, changes the narrative water quality standard for turbidity and adds a narrative water quality standard for the regulation of flow in a body of water. Several comments were received, both in writing and orally at public hearing, in opposition to these proposed narrative standards. In response to comments from Shanty Hollow, Ski Areas of New York (SANY), the Business Council and others (hereinafter “Commentors”), the Department would like to respond to concerns and clear what appear to be misconceptions or misinterpretations expressed by the Commentors.

Article 6, part 703 of the NYCRR describes the applicable standards for water quality in the State of New York. It lays out specific water quality standards for surface and groundwater as well as effluent limitations for groundwater. Specifically, section 703.2 states narrative water quality standards for surface water, as well as the classifications of water that those standards apply to.

The Department’s proposal to add class A-Special waters to the narrative standard for turbidity

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was argued as violating equal protection rights of the “regulated public” under the United States Constitution, by Commentors. The comments received by the Department regarding this standard are outside the purview of this rulemaking, as the only proposed change here seeks to add a classification of waters to the standard, not change the standard or its application in any way. Therefore, those comments received by the department will not be responded to.

The Department’s proposal to add a narrative water quality standard for flow states “no alteration that will impair the waters for their best usages.” This change received a number of comments which will each be addressed by the department with this response.

The narrative flow standard proposed by this rulemaking is procedurally valid under the State Administrative Procedure Act (SAPA). Several commentors raised this issue with the department, specifically sections 201-1, 202-b, and 202-bb. DEC properly looked at and made determinations as to the need for a job impact analysis, regulatory impact analysis for small businesses and rural flexibility analysis, and determined that the flow standard, unlike other portions of the rulemaking, would not have an adverse impact on jobs, small businesses or rural areas. This determination came after a complete and thorough analysis and consideration for those potentially affected parties. The Department maintains that the narrative flow standard will have no adverse impact on any of the subject areas.

The narrative flow standard is also procedurally valid under the State Environmental Quality Review Act (SEQRA). Commentors raised the same arguments as with SAPA above, and the result is the same. The Department, after careful consideration and review, maintains that the proposed flow standard will not have an adverse impact and any argument to the opposite is simply a philosophical disagreement, and not an indication as to deficiency in the rulemaking process. Accordingly, DEC reiterates the fact that this topic is addressed in its Regulatory Impact Statement (RIS) and therefore not required under SEQRA.

The Department has long held the authority to regulate the flow of those waters of the state for which water quality standards exist. Several commentors have raised issue with the Department’s authority to issue the narrative flow standard. The Department already has the authority to regulate flow through statute. This rulemaking will simply publish such existing authority within the NYCRR.

NY Environmental Conservation Law (ECL) § 15-0313 gives the Commissioner the authority to classify waters within the state based upon their best usages and set water quality standards for those classifications. Those best usages are stated in ECL § 17-0301. ECL § 17-0301(3) specifically states “[i]n adopting the classification of waters and the standards of purity and quality above mentioned, the department shall give consideration to:

- a. The size, depth, surface area covered, volume, *direction and rate of flow*, stream

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gradient and temperature of the water;” (emphasis added).

Furthermore, 17-0301 sets forth the best usages of waters to include both recreation and fishing and fish culture. It is known that flow affects both of these usages directly as well as other best usages in certain situations. The Department maintains that this authority is already in existence and is sufficient to implement the regulatory narrative flow standard.

The Department believes that the flow standard, and the authority for it that has existed previously, are sufficient to protect the waters for their best usages. Statutory authority (ECL 17-0301) allows the department to use water quality standards in order to maintain the waters for their best usages, one of those standards being flow as discussed above. Therefore the flow standard will be sufficient in protecting the waters for their best usages, as such is already allowed by statute.

Related to the Department’s authority to make this rule, several commentors argued that the department does not have the authority to regulate the commercial withdrawal of water from the waters of the state. This argument is misplaced. The Department is not proposing to regulate the commercial withdrawal of water via the narrative flow standard. As stated above, the Department has the authority to regulate flow in order to protect the waters for their best usages. That is the basis of this rulemaking and the department intends to regulate flow within the waters of the state to protect them for their best usages. This rulemaking is in no way *ultra vires*, as commentors suggest, but based upon sound statutory authority allowing the department to create water quality standards.

Commentors’ suggestion that New York’s water supply law is fractured and therefore the department should not include a water supply regulation within the water quality standards rulemaking is not within the bounds of this rulemaking. The Department reiterates the same arguments as above. This rulemaking is limited to parts 700-704 of the NYCRR and deals solely with water quality standards. It is not a water withdrawal rulemaking. The purpose of this rulemaking is to update water quality standards to protect the waters for their best usages.

Commentors also raise the argument that water quality standards must be linked to a discharge, and since the flow standard is not, that it fails substantively. Again, commentors’ argument is misplaced. Water quality standards exist in order to protect the waters of the state for their best usages. They are strictly applicable to all classified waters as to the state of the water body, not limited to the discharges into those bodies. Discharges are a source of a pollutant causing or contributing to a water quality violation, however the standard is applicable to the quality of the water body and not necessarily to a specific discharge. All water quality standards would fail commentors’ test if their argument were true, not just the flow standard.

Commentors raise the very important argument of competing usages in applying water quality

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standards. The Department believes that this subject area will determine the direction to be taken with the flow standard, but also believes that commentors make assumptions based upon their own fears as opposed to applying reason. Commentors make the assumption that the Department will protect fish habitat above all else when implementing the flow standard. While fishing and fish cultures is a best usage, as stated previously, commentors fail to acknowledge that recreation is also a best usage, and for those waters that contain either usage, the other usually co-exists in that body. Commentors make the assumption that the Department will only take one usage into consideration. This is simply not true. The mission of the Department is to achieve a balance with competing environmental and human needs, and the Department plans to maintain that with any application of water quality standards. As with any determination of the protection of water quality, consideration will be given to all uses in application of

the flow standard.

The Department also notes comments submitted by the ski industry related to skier safety. The Department appreciates this concern, and does consider safety to be an important issue. However, the Department's analysis of the regulatory impact of the proposed narrative flow standard did not reveal any impact from this standard on the ski industry, because it does not create any new authority. Thus there is no impact on skier safety. As explained in the rulemaking proposal, the Department does not believe that the adoption of this standard will create any authority to limit the withdrawal of water for snowmaking operations that did not exist previously.

This rule is not arbitrary and capricious, as some commentors suggest. The Department did not simply pull flow out of thin air. As noted above, flow is something that must be taken into consideration when determining water quality and classification, as mandated by statute. This creates no new authority, as noted in the regulatory impact portion of the rulemaking, and is based upon already existing authority by the Department.

Enforceability was raised by commentors, seeking to clarify how the standard will be applied once in place. The Department understands the concern of commentors and has begun to develop Technical and Operational Guidance Series (TOGS) which will help everyone to better understand implementation of this rule. The Department invites commentors to participate in the process of review those TOGS and would like to reiterate that it has found no regulatory impact for this proposed standard.

The Department has been up front with the fact that implementation guidance for the narrative flow standard in the form of TOGS is still being developed. There is no requirement that implementation guidance accompany any standard. The TOGS is primarily guidance to Department staff to implement regulations. The department disagrees with commentors'

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contention that the standard is improper to be adopted without guidance already in place. The department believe that the standard can stand on its own, as do its several other narrative standards that are independent of implementation guidance.

An internal comment sought to clarify whether aesthetics qualified as best usages for the flow standard. Although viewing of a waterfall or the flow of a river may be desirable, it is not an activity that is intended to be protected by the narrative standard for flow for any waters now classified in New York State. The standard, “no alteration that will impair the waters for their best usages” (in 701.3 for Class AA-Special and 703.3 for Class A, AA, A-Special, B, C and D fresh surface waters) is tied to the best usages (which are human uses) for these waters as set forth in 6 NYCRR Part 701, and do not include the aesthetic viewing of a waterfall or any other use solely related to viewing the water. The proposed flow standard for class N waters in 701.2 also ties to the best usages, which for Class N does include “the enjoyment of water in its natural condition.” However, there are no waters in New York State currently classified as Class N.

The proposed narrative flow standard was made part of this rulemaking because of its importance in clarifying the Department’s existing authority to regulate flow to maintain water quality. The Department’s rationale for the proposed narrative flow standard is explained in the RIS and the Description of Proposed Action. The Department stands by its rationale, and its determination that there will not be any regulatory impact from this proposed standard.

Issue Raised: F-5 - Turbidity Standard Lacks Technical Basis [703.2]

Two commentors (Oneida-Herkimer SWA and NYS ASWM) raised this issue; their comments are combined herein. The substantial visible contrast standard is based on aesthetic considerations and not protection of public health or the environment. The mere existence of a visual contrast does not in and of itself represent a harmful condition that would threaten human health and the environment. The turbidity standard was not based on any toxicological or physical analysis of the effect of a visual contrast on human health or the environment.

Response F-5:

DEC disagrees with the inference that there must first be a harmful condition that would threaten human health or the environment in order for DEC to establish a standard. Standards are established to protect the waters for their best usages. The use of a water can be impaired by

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turbidity.

According to the report, New York State Water Quality 2004, silt causes excessive turbidity which impairs water supply uses, fish propagation, and swimming. Silt and sediment is reported as the primary cause of use impairment/impact in 5,800 miles of rivers and 51,380 acres of lakes and reservoirs, and as the secondary cause of use impairment/impact in an additional 2,500 miles of rivers and 280,600 acres of lakes and reservoirs.

For primary contact recreation (swimming use), turbidity and water clarity are clearly a concern. In fact, the New York State Department of Health has minimum standards of clarity that must be met in order for a waterbody to support a public bathing area. The proposed rule extends the existing

turbidity standard to Class A-S and AA-S waters where public bathing is an appropriate use and where the turbidity standard should be applied to protect that use and the safety of swimmers.

Excessive turbidity can also adversely impact aquatic life, as described in Issue/Response B-1. The existing standard for turbidity (for all but A-S and AA-S surface waters) has been in effect for many years, and enforced successfully in other waters. The addition of it to two water classes is merely an extension of its coverage, that will not have any regulatory impact because there are no permitted discharges to A-S or AA-S waters with limits for turbidity in their permits. -----

Issue Raised: F-6 - Turbidity as Surrogate for Other Pollutants [703.2]

Three commentors (The Business Council, NYS ASWM, and Oneida-Herkimer SWA) raised this issue; their comments are combined herein. Some may argue that turbidity can be a surrogate for other pollutants. However, there are more effective, more quantitative methods to objectively measure turbidity than “eyeballing” a stream to somehow subjectively determine whether there is a substantial visible contrast. Commentors suggest taking samples to measure NTUs, settleable solids, total suspended solids, and other parameters.

Response F-6:

On its face, an objective standard is a worthy goal. However, it is not feasible to have such an objective standard that considers the conditions and the time of assessment, the nature of the receiving water, or other site specific conditions. See also Issue/Response B-1.

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Issue Raised: F-7 - Turbidity Standard Should Be Deleted - Color Differences - Stormwater [703.2]

Three commentors (The Business Council, Oneida-Herkimer SWA, and NYS ASWM) raised this issue; their comments are combined herein. The standard could result in a violation for a site that discharges “clean or uncolored” stormwater to a receiving stream that was naturally colored due to a stormwater event. This highlights the need to eliminate the narrative turbidity standard. Similarly, a visible contrast may be a function of color differences between sediment sources causing a stormwater discharge from an otherwise compliant site to be deemed non-compliant simply because the color of the discharge differs from that of the receiving water even though the measurable turbidity differences are not significant.

Response F-7:

Hypothetically, a site could be cited for ‘cleaning up the water’, but DEC does not believe that it has ever done so. The narrative standard for turbidity is not intended, nor should ever be interpreted to prohibit discharges that are cleaner than the ambient waters.

Issue Raised: F-8 - Turbidity Enforcement - Stormwater

The NYS ASWM noted that the “no substantial visible contrast” standard is incorporated by reference into the Statewide Stormwater (SPDES) Permit for Construction Activities and for Industrial Activities. This can be a significant enforcement concern for construction contractors since DEC requires them to sign certifications that are incorporated into a site’s Stormwater Management Plan (to implement BMPs to ensure that runoff does not violate water quality standards).

Response F-8:

DEC intends for construction contractors to be concerned about water quality and that has been the effect of including the standard by reference in the permits for construction activities and industrial activities.

Issue Raised: F-9 - Turbidity and Stormwater BMPs [703.2]

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Three commentors (The Business Council, NYS ASWM, and Oneida-Herkimer SWA) raised this issue; their comments are combined herein.

The use of Best Management Practices (BMPs) as part of a formal Stormwater Pollution Prevention Plan (SWPPP) on construction sites is defined as sufficient for the control of stormwater statewide. These BMPs appear to be based on the one year rainfall event, such that they will protect against violation of the visible contrast [turbidity] standard for events that size and smaller. Larger storm events will by definition create the potential for violation of the narrative turbidity standard. Under stormwater regulations, permittee is not allowed to claim an upset condition for standards that do not have numerical limits. Thus, permittee can be in violation even though it is due to weather events outside the design criteria. During construction projects and soil mining activities, it can be very difficult to comply with the no substantial visible contrast requirement during heavy storm events, even if BMPs are being implemented.

State stormwater regulations require capture and treatment of 90% of the annual average stormwater runoff volume. A site designed to meet this requirement, in accordance with existing State SPDES requirements, could violate the visible contrast standard during extreme storm events that exceed the water quality treatment volume.

Two of the commentors go on to say that regardless of what standard for turbidity is utilized, it should only apply to restricted storm events. Storm events of a magnitude greater than the 1-year, 24-hour storm should be exempt from the turbidity water quality standard.

Response F-9:

The comment mixes the post construction requirements with the during construction requirements of the existing construction permit. There are no explicit storm frequency requirements in the New York State Standards for Erosion and Sediment Control. However, conscientious implementation of BMPs from the standards would protect receiving waters in storms well in excess of the one year storm.

As with any Clean Water Act permit, the discharger is required to meet both water quality based and technology based requirements. While the technology based requirements of the New York State Standards for Erosion and Sediment Control (or other BMPs that meet the goals of the permit) will allow the discharge to meet water quality standards in all but a few cases, the discharger is still required to apply additional controls beyond the technology standards to meet water quality requirements.

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Issue Raised: F-10 - Turbidity Standard and Stormwater - Construction and Soil Mining Sites [703.2]

Three commentors (The Business Council, NYS ASWM, and Oneida-Herkimer SWA) raised this issue; their comments are combined herein. Compliance with the “no substantial visible contrast” requirement can be difficult or impossible during heavy storm events, even if BMPs are being implemented. It can be especially difficult for construction/mining projects located closer to the headwaters of a stream or river, where there is little or no stormwater runoff upstream of the site. Hence, the first such project using BMPs could be deemed guilty of a “visibility” violation but another such project a few hundred feet downstream (that may not be doing a good job with its BMPs) would get a free ride because the upstream project has temporarily clouded the water.

The regulated community should not be required to comply with the narrative “visibility” standard since it is highly subjective and bears little or no relationship to actual environmental harm that may be caused by a construction/mining site. The standard should be deleted, and DEC should instead rely upon more objective tests such as field turbidity sampling and lab tests for settleable solids.

Response F-10:

This comment raises concerns about a circumstance that occurs infrequently: discharges directly to headwaters. It also suggests that because of the possibility of this exceptional circumstance, the rule should not address turbidity concerns in receiving waters. The department rejects this suggestion.

The comment appears to be based on the assumption that natural conditions are always upstream conditions. While this is true in the majority of scenarios, under certain very limited fact patterns, natural conditions could also be conditions downstream or in analogous watersheds.

Issue Raised: F-11 - Turbidity and Stormwater Permits [703.2]

Two commentors (Casella and Oneida-Herkimer SWA) raised similar issues; their concerns are both included herein.

The Oneida-Herkimer SWA noted that New York State construction stormwater regulations

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govern all projects involving at least 1 acre in soil disturbance, and they incorporate by reference the narrative standard. The reach of the turbidity standard is broad and its impact on individuals and businesses is chilling. Commercial development, housing development, redevelopment projects, landfills, mineral mines, logging operations, transportation projects, park development projects, and individual homeowners must all comply with this subjective and vaguely worded standard. Its ubiquitous nature and definition of standard argue for its revocation.

Casella described the SPDES Multi-Sector Permit for Stormwater Discharges Associated with Industrial Activity (GP-0-06-002) and the Stormwater Pollution Prevention Plan (SWPPP). A facility owner/operator cannot compare the narrative standard with a numeric effluent limitation or a benchmark concentration to determine compliance or the effectiveness of the SWPPP, and a regulatory conflict could occur between the narrative standard for turbidity and the numeric effluent limitations and benchmark concentrations for Total Suspended Solids (TSS) established in GP-0-06-002 or an individual SPDES permit. Compliance with the numeric effluent limitation or the benchmark concentrations for stormwater discharges may not automatically mean compliance with the narrative standard for turbidity, especially when the TSS limit under GP-0-06-002 is not the same for all industrial sectors.

DEC should change the narrative standard for turbidity by indicating in the proposed rule that it does not apply to stormwater discharges permitted under GP-0-06-002 or an individual SPDES permit. The numeric effluent limitations and the benchmark concentrations provide measurable indicators of compliance with discharge limits and best management practice effectiveness without having a narrative standard that is not measurable.

Response F-11:

As with any Clean Water Act permit, the discharger is required to meet both water quality based and technology based requirements. While the technology based requirements of the New York State Standards for Erosion and Sediment Control (or other BMPs that meet the goals of the permit) will allow the discharge to meet water quality standards in all but a few cases, the discharger is still required to apply additional controls beyond the technology standards if necessary to meet water quality requirements.

Issue Raised: F-12 - Turbidity - Development of Criteria [703.2]

Casella suggests that DEC consider developing water quality standards for turbidity based on US EPA's recommendations in the Framework for Developing Suspended and Bedded Sediments (SABS) Water Quality Criteria (EPA-822-R-0-06-002) May 2006.

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Response F-12:

DEC has adopted a narrative standard in regulation and believes that it remains a valid and appropriate approach to address problems caused by excess turbidity [see Issue/Response B-1]. However, DEC as a matter of practice, continually reviews updated and new information that might result in a revision to its water quality standards in the future. The Framework for Developing Suspended and Bedded Sediments (SABS) Water Quality Criteria (EPA-822-R-0-06-001, May 2006) will be reviewed for possible future use in deriving standards, and considered as a tool for better defining appropriate levels of turbidity on a site-specific basis [i.e., as a translator for the existing narrative turbidity standard]. This Framework presents tools and technical elements to assist states in developing criteria, adopting criteria into standards, and supporting the attainment of SABS standards.

Issue Raised: F-13 - Support for Narrative Standard for Flow [703.2]

Seven commentors (Dutchess Co. WWA, John Droz, Trout Unlimited - EWP - NY, Trout Unlimited CC, American Rivers, The Nature Conservancy, and American Fisheries Society - NYS) expressed strong support for the proposed new narrative standard for flow. Similar views were expressed by Trout Unlimited and The Nature Conservancy in their oral comments. Due to their similarity, these comments have been combined herein.

This specific reference will provide a long term benefit to cold water fisheries and their habitat. Explicitly addressing water quantity is a timely and necessary step to adequately protect the physical, chemical and biological integrity of rivers and streams in the state. Other states, including New Hampshire and Maine, have addressed flow in their water quality standards [commentor provided details].

The changes add flow as criteria for decision-making, so that waters of the State of New York will not be impaired for their best uses. This action will better protect and restore New York's aquatic ecosystems.

Although we live in a relatively water rich region, demand for water resources continues to grow in many areas. In Dutchess county, decreasing stream flows potentially associated with current water uses could jeopardize riparian habitat, tourism opportunities and overall quality of life. Maintenance of minimum base flows in streams is critical to the present and future multiple users of surface waters. Regulating stream flow is critical to managing water resources to insure their sustainability for existing and future users.

This effort to explicitly address water quantity issues is timely. In New York State, increasing

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demands are being placed on our waters leading to, in some cases, negative impacts on aquatic biota and shortages for human use during drought. According to the 2004 New York State Water Quality Report, hydrologic modification was the major cause of impairment for 932 river miles and a moderate cause of impairment for 1,296 river miles in the State. This 2000 mile figure is conservative due to staffing and funding at DEC. Thus the proposal of this narrative flow standard is an important step forward for New York. Commentor applauds DEC's efforts to provide for the sustainable water needs of communities while also further advancing the conservation of our freshwater biodiversity. Stream flow is such a big issue in NYS because of high population, mismanagement of water supply, suburban sprawl, leaky pipes, and unmetered water. Water shortages have occurred across southern New York. More rural areas have seen shortages due to golf course, ski resorts, and hydroelectricity. Flow problems especially result in changes to fish communities: disappearance of a cold water species, replacement of cold water fish like trout with pond like species, and reduced abundance of fish in large rivers.

A narrative flow standard acts as an important foundation for the protection of the State's aquatic resources and biodiversity. Such a standard is critical to protecting the natural variability and levels of stream flow in order to support chemical, physical, and biological integrity of State waters. Effective implementation of a flow standard will also help ensure that New York citizens have consistent availability of fresh water for multiple human uses.

The proposed flow standard is an important first step. The proposal of the narrative flow standard is appropriately justified in DEC's supporting documents for the rule making.

Response F-13:

DEC acknowledges the support of these commentors for the proposed flow standard.

Issue Raised: F-14 - Proposed Flow Standard Fatally Defective [703.2]

SANY contends that the proposed flow standard is fatally defective on both substantive and procedural grounds and should be withdrawn. Shanty Hollow also opposes the regulation on both substantive and procedural grounds and requests that DEC abandon the proposal until a valid basis is established for it and DEC follows procedural requirements associated with a proposal of this magnitude.

Response F-14:

See Issue/Response F-4.

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Issue Raised: F-15 - Scope of Flow Standard [703.2]

Two commentors (SANY and Shanty Hollow) state their understanding that DEC intends the flow standards to cover any and all alteration of flow, including any withdrawal of water from classified surface water bodies.

Response F-15:

A goal of the proposed narrative standard for flow is to insure that alterations to flow do not result in the impairment of a waterbody's best use(s). The proposed narrative standard for flow does not create or impose regulations or limitations on alterations to flow that *do not* impair waters for their best uses, and does not limit the withdrawal of water above and beyond what is needed to maintain best uses. As DEC made clear in its proposal, the standard will not create any new regulatory authority beyond that which currently exists, absent the standard. See Also Issue/Response F-4.

Issue Raised: F-16 - Proposed Flow Regulation is Procedurally Invalid under SAPA [703.2]

Two commentors (SANY and Shanty Hollow) raised this issue; their comments are combined herein. The proposed regulation is procedurally invalid under the State Administrative Procedure Act (SAPA). The proposed rule making violates several provisions of SAPA, including section 201-1 (Job Impact Analysis), 202-b (Regulatory Flexibility Analysis for Small Businesses) and 202-bb (Rural Area Flexibility Analysis). Ski areas are not mobile and cannot leave NYS for a less regulated environment. DEC is mandated under SAPA to both seriously consider the impacts to ski areas (including Hunter Mountain) and to attempt to minimize them. DEC has done neither.

DEC did not even acknowledge any impact to anyone from the proposed flow regulation, limited itself solely to the consideration that the only impact from the proposal is from the new standard for ammonia for marine waters, and did not evaluate for any potential impacts to ski areas, some of which are small businesses. Nor, were impacts evaluated on rural areas or on small businesses reliant on Hunter Mountain's viability. The proposed regulation also stands to jeopardize potentially thousands of the 10,000 ski-related jobs that exist statewide, requiring a Job Impact Analysis under SAPA section 201a.

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Response F-16:

See Issue/Response F-4

Issue Raised: F-17 - Proposed Flow Regulation is Procedurally Invalid under SEQRA [703.2]

Two commentors (SANY and Shanty Hollow) raised this issue in their written comments; Tom West also raised this issue in his oral comments at the public hearing on behalf of SANY. The comments by the above are combined herein. The proposed regulation is procedurally invalid under the State Environmental Quality Review Act (SEQRA). For underlying reasons related to the impact on rural areas, job loss/displacement and resulting effect on local communities, DEC's analysis is fatally defective under SEQRA. An assessment of potential changes resulting to the character of the communities affected by the projected economic downturn is required (6 NYCRR 617.2(1), 617.7(c)(1)(v)). Shanty Hollow gave Hunter Mountain as an example.

Response F-17:

See Issue/Response F-4

Issue Raised: F-18 - Regulatory Impact from Narrative Flow Standard [703.2]

Two commentors (American Rivers and The Nature Conservancy) agree with DEC's determination that the proposed standard will not create any new regulatory authority.

Response F-18:

DEC acknowledges American Rivers' and The Nature Conservancy's support of DEC's determination. See Also Issue/Response F-4.

Issue Raised: F-19 - Sufficiency of Flow Standard to Protect Flows and Beneficial Uses [703.2]

Two commentors (American Rivers and The Nature Conservancy) addressed this; The Nature Conservancy-NYS also addressed it in their oral comments at the public hearing. The addition of a narrative flow standard alone may not be sufficient to protect the natural flows and the

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beneficial uses they support. DEC should consider whether the authority contained in SPDES permit, Clean Water Act Section 401 State water quality certification, and ECL Article 15 authorities are adequate to ensure these narrative flow standards are met.

Response F-19:

See Issue/Response F-4.

Issue Raised: F-20 - Flow Standard Lacks Statutory Authority and Should be Deleted from Proposal [703.2]

The Business Council questioned DEC's statutory authority for this standard. While states have authority to [regulate] water withdrawals under federal law, the NYS legislature has not provided DEC with general authority to do so. ECL Article 15 specifically authorizes DEC to regulate water withdrawals only in specific circumstances: for potable purposes (ECL 15-1501, for out of state transfer via conduits (see ECL 15-1505), releases from reservoirs (ECL 15-0805), and withdrawals to be transported by vessel (ECL 15-1506). Registration of withdrawals within the Great Lakes is also authorized (ECL 15-1605).

The provisions in the ECL cited by DEC as the basis for this rule making [ECL 3-0301.2, 15-0313 and 17-0301) do not provide for the general regulation of commercial water withdrawals.

Absent a specific grant of legislative authority, the Business Council does not see a statutory basis for the regulation of flow under the SPDES permitting program. The flow standard should be taken out of the current proposal and reconsidered when/if DEC has confirmed its statutory authority.

Response F-20:

See Issue/Response F-4.

Issue Raised: F-21 - Flow Standard - Lack of Authority to Regulate Commercial Water Withdrawals [703.2]

SANY and Shanty Hollow, and Tom West on behalf of SANY in oral comments assert that DEC

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lacks the statutory authority to regulate all commercial water withdrawals as proposed. Their detailed comments are summarized and combined herein.

Such authority is not contained in federal law or the United States Supreme Court's PUD No. 1 decision (detailed comments provided). While federal law recognizes the State Legislature's power to regulate flow/water withdrawals, it does not empower DEC to promulgate this rule without authorization from the NYS Legislature.

Furthermore, the Environmental Conservation Law (ECL) does not authorize DEC to regulate all commercial water withdrawals. ECL Article 15 (not ECL Article 17) does address water withdrawals and flow, but it specifically authorizes the DEC to regulate water withdrawals (or flow) only in very discrete, limited instances. Commentors provide a brief historical review of Articles 15 and 17. The proposed flow regulation, which applies to all commercial water withdrawals, contravenes the Legislature's express articulations, as set forth in the history and text of the statute, and is impermissible. Proposed standard cannot be squared with Article 15's history, design and express language; thus, the proposal is *ultra vires*.

Shanty Hollow described the background of DEC's past attempts at asserting jurisdiction over commercial water withdrawals. Shanty Hollow asserted that DEC never suggested that its authority to regulate commercial water withdrawals is in ECL Article 17. The rule making is in marked contrast and in it, DEC concedes that the ECL under Articles 15, 17, 3, and/or 1 does not authorize DEC to enact the broad based regulation of water withdrawals. Shanty Hollow argues that DEC's rationale (relying on the CWA and US Supreme Court PUD No. 1 decision) is misguided [commentor provided details]. Contrary to DEC's contention in the RIS (pp 24-25) there is no regulatory gap in NYS law which DEC is at liberty to fill with its own interstitial declaration.

Response F-21:

See Issue/Response F-4.

Issue Raised: F-22 - Fragmented Nature of New York's Flow Laws [703.2] In oral comments, the NY Council of Trout Unlimited stated that flow is such a big issue because New York has a fractured water law regarding water quantity - with different laws for different waters in NYS. The effect of these fractured water laws is low or slow stream flow and low DO levels. Tom West, representing SANY, provided oral comments on this issue as well. While fractured or fragmented is probably an accurate description, it is not fragmented in the sense that it is haphazard. Rather, it is a direct by-product of the legislature deciding when they needed to regulate flow - which they have only done in very very limited circumstances, including

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withdrawal for potable purposes. It is a very conscious (not fragmented) system where the legislature has told DEC you have the authority to regulate in these specific areas. The legislature has not given DEC the authority to regulate flow as part of withdrawals for commercial purposes [see Issue F-21]

Response F-22:

See Issue/Response F-4.

Issue Raised: F-23 - Application of Flow Standard is Improper Because it does not Relate to a Discharge [703.2]

Two commentors (Shanty Hollow and Tom West for SANY - oral) asserted that DEC's intended application of the standard is improper. The purpose of water quality standards is to regulate discharges

- what comes out of the pipe, not what is taken in. Historically, water quality standards enacted pursuant to ECL Article 17 have been inextricably linked to a regulatory activity resulting in a discharge [commentor provides citations]. Under New York law, water quality standards are not even implicated unless there is a regulated activity resulting in some "discharge" to state waters. Because DEC intends to regulate all commercial water withdrawals under the proposed flow standard, regardless of whether the discharge threshold is met, the regulation is *ultra vires*.

Response F-23:

See Issue/Response F-4.

Issue Raised: F-24 - Flow - Competing Uses and Balancing Directive of ECL Article 15 [703.2]

Several commentors (The Business Council, SANY, Shanty Hollow, and Tom West for SANY - oral) raised issues on this topic; their comments are combined herein.

DEC's best usages do not include any consideration of commercial, agricultural, or non-contact recreational uses. The proposed flow standard does not even acknowledge these, or industrial uses. ECL Article 15 mandates that water allocation interests be decided by balancing competing uses, including commercial interest, with due consideration being given to the relative importance of each use. The balancing dictate has been upheld by the Appellate Division (details and citation provided). The statute expressly deals with allocation issue and attempts to

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maintain adequate water resources for both “health, safety and welfare of the people” as well as “economic growth and prosperity of the state.” ECL 15-0103(3). The proposed standard effectively allows fish propagation and protection to trump all other uses, in violation of the statutorily mandated balancing directive, as well as the express directive that domestic and municipal uses shall have priority over all other uses. The standard would automatically require that fish propagation be considered above any impact to commercial or industrial operations. The result is inconsistent with the balancing approach of ECL Article 15.

The proposal also is inconsistent with other provisions in ECL Article 15, which exempt agricultural activities including water withdrawals for irrigation, from permitting requirements respecting stream bank/bed disturbance.

On multiple grounds, the proposed flow standards cannot be squared with Article 15's history, design and express language and thus is *ultra vires*.

Response F-24:

See Issue/Response F-4.

Issue Raised: F-25 - Impact from Flow Standard to Commercial and Industrial Operations [702.3]

The Business Council believes that the standard would be applied to any and all alteration of flow, including any withdrawal of water from classified surface water bodies. If this is the case, the standard would have a significant adverse impact on commercial and industrial operations in NYS whose ability to withdraw water is restricted.

Response F-25:

See Issue/Response F-4.

Issue Raised: F-26 - Opposes Flow Standard - Devastating Impact on Ski Industry and Other Businesses [703.2]

Several commentors (SANY, Peek’n Peak, Shanty Hollow, and SANY - oral) raised opposition

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to the flow standard as it relates to the ski industry. Their comments are combined herein.

The ski industry, ski-related businesses and rural areas in New York State will be directly and adversely affected by the flow standard. The proposed flow standard represents a new, across the board regulation of all commercial water withdrawals, including commercial/non-contact recreational snowmaking water withdrawals. The flow standard will apply to all commercial water withdrawals in New York State including those necessary for snowmaking, regardless of source, intended use, existence (or non-existence) of any discharge, or the need (or lack thereof) for any other State permit.

Ski areas in New York State, including Hunter Mountain, are critically dependent upon quality snowmaking for their survival. The proposed regulations will make it more difficult for ski areas to withdraw water from streams for snowmaking (which will need to be increased due to warmer winters). The cost of doing business at ski areas in New York will increase due to the need for regulatory compliance, exacerbating the existing downturn in the ski industry. An EIS respecting Hunter Mountain documents the correlation between skier visits and snowfall, as well as the need for snowmaking (i.e., water withdrawal).

The proposed regulation will have far-reaching and devastating consequences to large and small business throughout New York State. It will subject to regulation a vast array of businesses heretofore unregulated, and subject already regulated ones to a new, unenforceable standard.

The DEC's regulatory impact analysis is incorrect. The assessment of jobs impacts is incorrect. The standard will immediately place hundreds of jobs in jeopardy, and perhaps thousands more if DEC decides to limit or stop water withdrawals for snowmaking.

Response F-26:

The commentor's position that the narrative flow standard will adversely affect the ski industry, and have devastating consequences to large and small businesses and jobs across the state is incorrect and unsubstantiated. The commentor did not provide any documentation as to how or why the purported impacts will result. DEC's thorough regulatory impact evaluation, conducted prior to proposal of the rule and reviewed by the Governor's Office of Regulatory Reform, did not identify any impacts to the ski industry or its associated businesses or rural communities. Because the proposed narrative flow standard will not create any new regulatory authority, it will not result in any regulatory impact. The addition of this standard does not create any new regulatory authority or program. As described in the RIS, "the addition of a flow standard will not create new regulatory authority, but it will serve to highlight and clarify that the Department considers flow critical to maintaining the best usages of the State's waters." DEC currently has authority under state law to regulate flow.

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See Also Issue/Response F-4.

Issue Raised: F-27 - Proposed Narrative Standard for Flow - Impact on Skier Safety [703.2]

SANY states that the impact of the proposed standard on skier safety should have been considered under SEQRA. [See 6 NYCRR 617.2(1), including “human health” in their definition of environment]. The ability of a ski area to recover rapidly from thaw/freeze events is important to provide safety. DEC did not consider the impact of this proposal on ski conditions in New York State and the resulting potential for an impact to skier safety, which contravenes the balancing process required by Article 15 and is not good government.

Response F-27:

See Issue/Response F-4.

Issue Raised: F- 28 - Flow Standard Lacks Substantive Support and, thus, is Arbitrary and Capricious [703.2]

Two commentors (Shanty Hollow and Tom West for SANY - oral) stated that the proposed flow standard is arbitrary and capricious, given that it stands wholly unsupported - and is in fact belied - by empirical data - and thus fails on these substantive grounds. DEC’s underlying premise for regulating water withdrawals is that such regulation is necessary to protect fish and allow for their survival and propagation; i.e., that commercial water withdrawals are hurting fish.

Regarding Shanty Hollow’s withdrawals, DEC has long opined (without substantive support) that snowmaking water withdrawals from Schoharie Creek were adversely impacting aquatic resources, including salmonids. Commentor described interaction between Shanty Hollow and DEC in 1980. Now, after many years of study, there *is* empirical evidence regarding the relationship between water withdrawals and resource impacts, and what it proves is that there are no appreciable impacts. Empirical evidence garnered by extensive scientific studies conducted by Shanty Hollow affirmatively demonstrates the *lack* of any negative impact of significance from Shanty Hollow’s snowmaking water withdrawals to any aquatic resources in Schoharie Creek (including salmonids). Commentor refers, for details, to the EIS that Shanty Hollow has prepared for Hunter Mountain. No significant adverse impact to fish populations has been documented as a result of the long-term operation of the existing withdrawal facilities, either

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under the interim limit in effect since the 1990s, or for the 30 years of unrestricted snowmaking water withdrawals preceding that time. In the end, these facts highlight the lack of substantiation for the proposed flow regulation, rendering it arbitrary and capricious.

Response F-28:

See Issue/Response F-4.

Issue Raised: F-29 - Flow Standard Should Be Deleted [703.2]

The Oneida-Herkimer SWA states that the use of the subjective narrative water quality standards for flow should be removed from NY's water quality standards.

Response F-29:

DEC does not believe that it is practical at this time to adopt a numerical flow standard that will apply to all situations across the state. The simple narrative standard that was proposed, accompanied by guidance on implementation, is believed to be the most appropriate approach. DEC has historically successfully employed narrative standards for parameters that can vary widely from location to location (see 6NYCRR Part 703.2 and Issue/Response B-1). The implementation guidance that is being prepared (in the form of a TOGS document) will involve input from an external advisory group that represents a wide variety of interests, and its own, separate, public comment opportunity. See also Issue/Response F-4 and F-36.

Issue Raised: F-30 - Enforceability and Consistent Application of Flow Standard [703.2]

Three commentors (Business Council, SANY, and Shanty Hollow) raised aspects of this issue; their comments are considered together, herein. The proposed flow regulation is substantively infirm. Agencies are required to promulgate adequate standards to safeguard against arbitrary agency action and allow for meaningful judicial review. Federal regulations require that state standards based on best usage incorporate criteria that when met, will assure that water quality is protected for those uses. The proposed standard does not contain any criteria and merely recites the end it is attempting to attain - to protect the best usage. Narrative standards are permissible, but defining the purported standard by merely reciting the end it seeks to attain is not. Commentors cite a statement by Administrative Law Judge Pearlstein.

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Response F-30:

See Issue/Response F-4 and F-36.

Issue Raised: F-31 - Narrative Standard for Flow - Impact on Turfgrass and Turf Industry [703.2]

The Turfgrass Association supports the comments of SANY in opposition to the proposed flow regulation. The Turfgrass Association contends that the proposed flow regulation would impair the condition and quality of turfgrass and adversely affect the economy of the turf industry in New York State. They further state that laws that negatively affect the health of the turf industry can also damage the economy of New York State.

Response F-31:

The commentator does not describe how (by what means or effect) the proposed narrative standard for flow would adversely affect the condition and quality of turfgrass or the economy of this industry. It can be surmised, however, that they believe that the proposed narrative standard for flow would constitute a regulation or restriction of their withdrawal of water, presumably for irrigation. The proposed narrative standard for flow does not impose any limit or restriction of the withdrawal or use of water in excess of what is needed in order to maintain the best public uses for which a water of the State is classified. DEC's regulatory impact analysis did not identify any impact from the proposed standard for flow, on the turfgrass (or ski) industry. As described in the RIS, the only impact found was from the proposed marine standard for ammonia. DEC stands by its analysis. See Also Issue/Response F-4.

Issue Raised: F-32 - Questions the Practical Need for Flow Standard [702.3]

The Business Council questioned the practical need for this standard, given DEC's statement that, in instances where a water withdrawal has the potential for significant adverse environmental impact, such proposals are subject to SEQ[R]A, which would require evaluation of potential impacts and practical mitigation options. If the DEC regulatory impact analysis is accurate (that no facilities will be subject to additional restrictions related to flow), The Business Council could assume that any such impacts are already effectively addressed through the SEQRA process - calling into question the need for this broadly applicable flow standard.

Response F-32:

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See Issue/Response F-4.

Issue Raised: F-33 - Implementation of Narrative Flow Standard - Preparation of Guidance [703.2]

Several commentors (Dutchess Co. WWA, American Rivers, The Nature Conservancy, and The Nature Conservancy - NYS - oral) addressed this issue; their comments are combined herein.

DEC should prepare guidance on implementation of the proposed standards. Because of the multidisciplinary nature of this work and the rapid evolution of the science of stream flow protection, DEC should consider forming a working group, or statewide technical committee of private and public water resource staff to help shape this guidance and ensure that it addresses the needs of a broad audience. Such technical committees, linked to the expertise of federal and state resource agencies, have been used effectively in other states to inform science-based approaches to flow protection.

Changes in flow will likely affect the standard to protect “fish, shellfish, and wildlife propagation and survival.” Based on current literature and practice in flow protection, approaches that ensure aquatic life propagation and survival will need to take into account not simply minimum flow, but natural variability in flows including timing, magnitude, duration, frequency and rate-of-change. The State should use approaches that range in intensity from desktop to site-specific, to have the information needed to achieve the standard.

Specific reasons that such guidance be able to quantitatively determine the degree of flow alteration allowable to meet best uses, and suggestions regarding its implementation, were offered.

Response F-33:

DEC agrees with the need to develop guidance on the implementation of the flow standard; and guidance in the form of a DOW TOGS document is under development. DEC also agrees with the need to form a public working group to assist in this process, and is establishing an outside advisory group that will involve a wide variety of interests. Following that process, a draft of the TOGS will be released for public review. The Department recognizes that there is a continuum of decision-making processes regarding flow ranging from very simple to highly complex, and that the forthcoming guidance will be invaluable in explaining how the standard will be

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implemented. See also Issue/Response F-4 and F-36.

Issue Raised: F-34 - Supports Adding Numerical Criteria for Flow and Minimum Base Flows [703.2]

Several commentors (Dutchess Co. WWA, American Rivers, The Nature Conservancy, Trout Unlimited - EWP - NY, and The Nature Conservancy - oral) raised the need for numeric criteria; their comments are combined herein.

The narrative flow standard would be ideally supported by numeric criteria that quantitatively define the allowable degree of flow alteration to protect the best uses of the state's rivers and streams. DEC will need to establish minimum base flow and an allocation system for all streams based on scientifically and politically supportable methodologies. There must be clear methods and a transparent review process that encompasses all potential water use in each basin. Interim guidelines could be established while a fuller implementation process is being developed.

Numeric criteria have the potential to ensure aquatic life protection while providing clear limits that define sustainable human use. They would also ensure adequate and consistent protection statewide as well as ensure predictability in the regulatory decision-making process.

Maine and NH along with most of the other northeastern states, are going much further than NY, with this proposed narrative standard. New York's proposed standard, by itself, does not go far enough to provide sufficient protection. DEC should adopt in a timely fashion appropriate guidance that includes numerical criteria. Numeric criteria should reflect natural variability in flows and define the allowable degree of flow alteration such that natural aquatic life is protected. Precise numerical standards and methodologies will also provide transparency and consistency for water suppliers and other water consuming industries. Commentor expressed concern over the lack of definitive standards or methodology for calculating minimum flows needed to preserve the current best use assignment for individual streams.

Response F-34:

See Issue/Response F-29 and F-36.

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Issue Raised: F-35 - Means for Determining Flow Alteration [703.2]

Three commentors (The Business Council, Oneida-Herkimer SWA and Casella) raised this issue; their comments are combined herein. Clarification is necessary as to the mechanism or means that will be used to evaluate whether or not there is an alteration to flow that impairs the waters for their best usages. No such approaches are included in the proposed rule. Will there be specific mechanisms for specific waterbodies, or more general mechanisms to evaluate alteration?

Response F-35:

See Issue/Response F-29 and F-36.

Issue Raised: F-36 - Lack of Flow Implementation Guidance Affects Impact Review; Proposal Should be Withdrawn Until Guidance is Available [703.2] The Business Council and Tom West on behalf of SANY - oral, expressed concern that the implementation guidance will not likely be available until after the standard is adopted. Thus, the regulated community will only be privy to the DEC's implementation plans after the standard is final and in effect. The lack of implementation criteria makes it difficult to assess the impact of the standard, or to identify facilities that could be subject to new or modified permit conditions based on flow alteration. The Business Council recommends that the standard be withdrawn until DEC has fully developed the implementation guidance, and makes such guidance available for public review in conjunction with the proposed standard.

Response F-36:

DEC reiterates that the standard will only serve to highlight and clarify that DEC considers flow critical to maintaining the best usages of the State's waters. As stated in the Regulatory Impact Statement, the addition of this standard will not create any new regulatory authority and will not result in any regulatory impact.

DEC acknowledges that the implementation TOGS was not available at the time the standard was proposed. Guidance of this type is not required, but should be useful to both DEC staff (who will implement the existing authority for the standard) and the public's understanding of the process. This guidance (which remains in development), will be limited to implementing the

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authority that currently (absent the standard) exists. DEC is establishing an outside advisory group representing a broad range of interests, to assist with the development of this guidance. DEC looks forward to working with the regulated community and other interests in this process. This TOGS will undergo its own public comment period when released as a draft following the work of the advisory group. See Also Issue/Response F-4.

Issue Raised: F-37 - Lack of Guidance for Flow Standard Confirms its Impropriety [703.2]

Two commentors (SANY and Shanty Hollow) note that DEC “candidly admitted” that it has yet to complete regulatory guidance concerning how proposed flow limits will be implemented. This concession underscores the lack of objectivity in the standard as written, further confirming its impropriety. It also sets the stage for ad hoc agency determination and arbitrary agency action. Thus, the proposed regulation fails substantively on this ground.

Response F-37:

See Issue/Response F-4 and F-36.

Issue Raised: F-38 - Stream Gauging, Biological Diversity Studies, and Inter-Municipal Review [703.2]

Dutchess Co. WWA recommended a network of stream gauging and biological diversity studies to monitor the real effectiveness of the regulatory control over stream flow. DEC should consider a program that involves local participation with ample state financial assistance. State legislation already has mechanisms for inter-municipal review and coordination of development proposals (e.g., Section 239 of General Municipal Law). Commentor suggests integrating inter-municipal review and coordination of water budgets and development proposals that will impact water budgets for shared basins and stream reaches within the GML and other existing review frameworks. The State is the best entity to coordinate management of stream flow, but local partnership should also be an integral component.

Response F-38:

DEC reiterates that the standard will only serve to highlight and clarify that DEC considers flow critical to maintain the best usages of the State's waters; the addition of this standard will not

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create any new regulatory authority. The flow implementation TOGS that will be developed will guide the implementation of the flow standard based on existing authority.

DEC acknowledges the commentor's recommendation but recognizes that fiscal restraints may restrict the level of monitoring. While a network of stream gages and studies would provide useful information, the resources to establish such a program are not available. The need for pre- and post-project monitoring is expected to be developed on a case by case basis. DEC will consider this comment further while continuing to develop the TOGS implementation guidance. It is expected the SEQR process for individual project proposals will lead to inter-municipal review and coordination. See also Issue/Response F-36.

Issue Raised: F-39 - Allocation of Takings; Unregulated Takings (re: Flow) [703.2] Dutchess Co. WWA expressed concern over the lack of discussion regarding how takings will be fairly allocated or regulated within basins either among individual new applicants or among municipalities. Many categories of potentially significant takings are not regulated because they do not fall within other regulatory permit requirements (e.g., agricultural irrigation wells, industrial or other wells that do not meet community water supply thresholds). Allocating resources is important to avoid continuing a first come, first served basis that does not draw notice until the resource is critically depleted.

Response F-39:

The commentor expresses legitimate concerns, but the proposed standard is not about allocating water among users. The purpose of the narrative flow standard is to highlight the importance of flow to achieving and maintaining the best uses of a water body. To the extent practicable, this issue will be considered by the advisory group as the implementation TOGS guidance is developed. See Also Issue/Response F-36.

Issue Raised: F-40 - Other States' Efforts re Flow [702.3]

Several commentors (The Business Council, Trout Unlimited - EWP - NY and Trout Unlimited - oral) described other states' efforts re flow. Their comments are grouped together herein.

The Business Council stated that they had surveyed other states that have a water quality standard for flow alteration; based on this and a review of state water quality standards, it appears that only Kentucky has anything similar to what DEC has proposed. The other is

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Montana, whose standard states that alteration of the natural flow of a water can be deemed to be degradation which would trigger a formal Anti-Degradation Review. Based on the lack of precedents, the Business Council reiterates the recommendation that the flow standard not be enacted until after the public has had a chance to review and comment on the draft TOGS guidance on this parameter.

Trout Unlimited's Eastern Water Project and NY Council noted that New Hampshire and Maine, along with most of the other Northeastern states, are going much further than New York, with this proposed narrative standard, in addressing statewide streamflow problems. Other states, including New Hampshire and Maine, have looked to their water quality standards to protect streamflow levels.

New Hampshire includes narrative criteria that states that "[u]nless flows are caused by naturally occurring conditions, surface water quantity standards shall be maintained at levels adequate to protect existing and designated uses." NH is also conducting exhaustive flow studies on two rivers, for which the "protected in stream flows [will]...serve as water quality criteria for the purpose of administration of water quality standards by the department under the federal Clean Water Act." Maine also references flow in its water quality standards. For example, for their class AA waters, "[t]he habitat shall be characterized as free flowing and natural." Maine's Dept. of Environmental Protection is at the end of a process that will result in statewide numerical flow standards incorporated in the state water quality standards.

New York is behind other states - 7 out of 7 including the New England states. Many other states have had statewide permitting systems set up for ground water, surface water, for many years.

Response F-40:

In the 1995 Supreme Court decision, PUD No. 1 v. Washington Department of Ecology, the court found that states could address both the quantity and quality of water necessary to protect existing and designated uses.

Since that time many states have adopted minimum flow standards or are in the process of establishing rules to best protect the aquatic resources in their streams through an instream flow program designed to address necessary water quantity.

For the past eight years, the State of Georgia has managed surface waters using minimum flow standards that establish the lowest level that all rivers and streams must exceed.

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In Washington, the Water Resources Act of 1971 (Chapter 90.54 RCW) requires the state to establish base flows to protect, and where possible enhance and preserve a variety of instream beneficial uses, such as fish, wildlife, navigation, recreation, aesthetics, and other environmental values.

Similarly, the ability to protect flow levels in North Carolina is not explicit; however, flow is inferred through the protection of Best Usage of Waters. This calls for the protection of aquatic life propagation and maintenance of biological integrity (including fishing, and fish), wildlife, secondary recreation, agriculture and any other usage except for primary recreation or as a source of water supply for drinking, culinary or food processing purposes.

In Hawaii the statutes address the instream use of water. Section 174C-71 (Protection of instream uses) identifies that a statewide instream use protection program be established. The statute establishes instream flow standards on a stream-by-stream basis.

In Michigan, if it is determined that a water body is not supporting a designated use (Rule 323.1100 of our water quality standards) then the cause of water quality standards non-attainment can be described on the 303(d) list as flow alterations.

Issue Raised: F-41 - Need to Reopen Existing Water Supply Permits (Flow) [703.2]

Trout Unlimited - EWP - NY expressed concern with the statement in the supporting documentation that existing water supply permits will not be reopened in order to ensure compliance with the standard. Many such water supply operations are the cause of significant downstream habitat degradation. They do not release enough water or let enough water pass by, such that downstream natural aquatic life can survive. These water supply systems should be eventually brought into compliance and not be permitted to continue to impair state waters for their best uses. In oral comments, Trout Unlimited questioned whether the flow standard would apply to water supply permits, which is the dominating major consumptive water use in the state.

Response F-41:

Because the narrative flow standard does not change our current regulatory authority, existing or proposed public water supply projects will continue to be regulated as before. The Department, in conjunction with a stakeholders advisory committee, will work toward the development of a TOGS that will further define any revisions to the current implementation of DEC's existing regulatory authority.

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Issue Raised: F-42 - Alteration to Flow from New Development - Stormwater [703.2]

Two commentors (Casella and Oneida-Herkimer SWA) raised this issue; their comments are combined herein. Alteration to flow will occur with any new development, and flow volumes can be increased during extreme storms as long as peak discharges are maintained to remain consistent with other State Regulations. Otherwise, all designs would require total retention or infiltration of stormwater.

Response F-42:

The technology based requirements of the New York State Stormwater Management Design Manual (or other BMPs that meet the goals of the permit) will allow discharges to meet the proposed narrative standard for flow in all but a few cases. In those few cases, under the new standard, new developments would still be required to assure that alterations to drainage do not impair the best usage of the receiving water. An example of the type of alteration that would impair best usage would be one that removed all of one drainage area from the watershed of a small stream, such that the stream no longer flowed.

The DEC believes that the narrative flow standard is necessary to avoid changes to flow patterns associated with development that impairs streams affected by such changes.

Issue Raised: F-43 - Location of Class AA-S Standard for Flow [703.2]

A citizen (John Droz) noted the absence of a flow standard for Class AA-S waters in the new 703.2.

Response F-43:

The commentor is correct that Class AA-S is not included in the narrative flow standard in 703.2. As explained in the Description of Proposed Action for this rule making, the proposed narrative standards for flow for Class N and Class AA-S waters, respectively, are listed in 701.2 and 701.3 respectively. This is for consistency with the location of existing, other narrative standards for those water classes. DEC will consider whether to reorganize the narrative standards in a future rule making.

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Issue Raised: F-44 - Flow Standard Does Not Address Groundwater Withdrawals [703.2]

Trout Unlimited - EWP - NY, Trout Unlimited - oral and The Nature Conservancy - oral are concerned that the narrative flow standard does not appear as if it will address streamflow problems associated with excessive groundwater withdrawals. Groundwater wells, especially if located close to surface waters, can have an immediate and direct impact on flows. Commentor describes New York State's dependence on groundwater for domestic water supplies. With the extensive current and

expected increase in reliance on groundwater for domestic water supplies, it is essential that DEC address streamflow problems associated with groundwater withdrawals in a timely manner.

Another commentor, a citizen [John Droz] requested that DEC add Class GA waters to the proposed flow criteria.

Response F-44:

Any activity that alters the flow of a surface water such as to impair that water for its best usages will be a violation of the standard. See also Issue/Response F-36.

Issue Raised: F-45 - Bulk Extraction of Groundwater (relates to flow) [703.2]

Two citizen comments address this issue; both comments are included herein. The Benzings describe a situation in Lewis County and the commentors' concern about the impact the bulk extraction of groundwater from aquifers or surface water will have on their own water supplies as well as the surrounding environment. New York State does not have laws to regulate such extraction; states that have allowed it are now taking action to stop it given evidence of environmental impact. DEC is strongly urged to take action to closely regulate bulk extraction of our water resources, particularly for commercial sale. They note that as it stands now, the landowner in question has taken the position that the water is his to do what he wants with it. However, water, unlike trees, soil, or rocks, may exist in an aquifer that goes well beyond one's property boundaries. In addition, the flow of water from one property to another by its very nature, prohibits one from "owning" it. What one person does with the water on their land affects everyone.

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DEC should make a thorough review of the impact of bulk water extraction in New York State for commercial, i.e., retail sale and profit and to regulate such extraction to protect the environment and our water resources. DEC should place a moratorium on bulk extraction for sale while these studies are taking place.

A citizen (John Droz) described a project in a small rural community in which a water bottler is “well on the way towards removing” hundreds of millions of gallons of clean fresh aquifer water, to be sold on the commercial market. They have already proposed building a one million square foot bottling facility. Commentor’s research revealed that no state agency had the authority to stop such large water withdrawals, and asks that DEC adopt such regulations.

Response F-45:

Any activity that alters the flow of a surface water such as to impair that water for its best usages will be a violation of the standard. See also Issue/Response F-36.

Issue Raised: F- 46 - Need for Regulation of Commercial Water Withdrawal [703.2]

A citizen (John Droz) advocates adding criteria to 703.2, prohibiting commercial businesses from withdrawing greater than 20,000 GPD from class N, AA-S, AA, A-S, A, or GA waters without specific written DEC approval. Such approval to be based on a comprehensive hydro-geological study, a complete SEQR and the submission of any other information that DEC deems relevant.

Response F-46:

Any activity that alters the flow of a surface water such as to impair that water for its best usages will be a violation of the standard. See also Issue/Response F-36.

Issue Raised: F-47 - Aesthetics and Flow [703.2]

This comment was raised internally within DEC. The question was whether the proposed narrative standard for flow is intended to address the aesthetic viewing of a flow of surface water, such as over a waterfall.

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Response F-47:

See Issue/Response F-4.

Issue Raised: F-48 - Dissolved Oxygen - Intervals vs. Formula for Compliance [703.3] IEC noted that the proposed language provides a formula to calculate the number of days that a certain waterbody is allowed to contain DO less than 4.8 mg/L but greater than 3.0 mg/L, and that the fact sheet conceptually refers to but does not specify DO intervals. DEC should incorporate specific intervals (with regard to number and extent) to check compliance with the proposed DO criteria, with the lower boundary of each DO interval used to calculate the number of allowable days within that interval. If a DO [concentration] of 4.7 mg/L is plugged into the formula, the formula would not return a value for the allowable number of days, because the logarithmic term becomes negative. This would be rectified by the interval approach.

Using the formula, the number of allowable days when the DO is measured to be 4.4 mg/L is 25 days. Using the interval approach, the number of allowable days between 4.2 and 4.8 mg/L (based on the lower boundary of 4.2) would be 18, a more stringent approach.

Response F- 48:

The proposed standard is expressed as the formula - which DEC believes is the most appropriate form. Typically, New York's water quality standards set forth the conditions that will achieve the designated [best] uses of the waters. The standards themselves do not include or set forth implementation or monitoring requirements or strategies. However, DEC agrees with the commentor that the use of intervals is an important aspect of the standard's implementation.

Interpretation of the revised marine DO standard is the subject of a new technical and operational guidance document, Division of Water TOGS 1.1.6, *Interpretation Guidance for Marine Dissolved Oxygen Standard*. This document will address the issues raised here, including the use of appropriate intervals. A draft of this TOGS will be made available for public review shortly, via the Environmental Notice Bulletin, and will also be placed on the Department's website.

Issue Raised: F- 49 - Dissolved Oxygen - Monitoring [703.3]

IEC commented that [under the proposed standard] when the DO result is between 3.0 mg/L and

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4.8 mg/L, both in situ monitoring and determining compliance is more difficult than monitoring of the existing “at any time” standard [5.0 mg/L]. Commentor suggests considering various monitoring options, including a continuous type, perhaps with remote instrumentation transmitting reading to a central office, to determine compliance with the proposed standard. DEC should consider devising an appropriate monitoring program during the adoption process, rather than waiting until after the standards are adopted. When determining a monitoring plan, the spatial and temporal extent of the program on a watershed basis must be determined, and coordinated with other state and interstate agencies who have jurisdiction within the watershed. Regional interstate monitoring would be beneficial in determining whether the criteria are being met.

Response F- 49:

As noted above, the standard itself is appropriately expressed as the formula. Typically, New York’s water quality standards set forth the conditions that will achieve the designated [best] uses of the waters. The standards themselves do not include or set forth implementation or monitoring requirements or strategies.

Guidance on the interpretation of the standard, will be contained in the Division of Water’s new TOGS 1.1.6, *Interpretation Guidance for Marine Dissolved Oxygen Standard* (see Issue/Response F48). The guidance document does not specify a monitoring protocol. The guidance does require the use of daily average DO concentrations that reflect diurnal fluctuations. The guidance assumes that adequate information is available to demonstrate that the daily average DO concentrations reflect diurnal fluctuations. If there is doubt about the adequacy of the daily average, a larger interval must be used in applying the standard.

The use of continuous monitoring equipment would appear to be the appropriate method of monitoring to assess the standard but may not be required in all instances. DEC is in the process of developing a statewide water monitoring strategy. The strategy is based on five goals that will ultimately protect, restore, and manage the aquatic and water resources of New York State. The new marine dissolved oxygen standard will be a prominent indicator in the design for the marine and estuarine monitoring section of this strategy.

Issue Raised: F-50 - Dissolved Oxygen - Coordination of Application with CT and NJ [703.3]

Commentor (IEC) recommends that DEC coordinate the application of its revised DO standard in the interstate waters of NY/CT and NY/NJ. As part of this coordination, the System-Wide Eutrophication Model (SWEM) projecting Total Maximum Daily Loads (TMDL) might need to

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be run. The Interstate Environmental Commission (IEC) would welcome the opportunity to assist in such coordination and to work jointly with NY and IEC's other two member states that might be affected by NY's revised regulations.

Response F- 50:

DEC, the Connecticut Department of Environmental Protection (CT DEP), the New Jersey Department of Environmental Protection (NJ DEP) and the IEC are all active members in the National Estuary Programs that deal with the regional interstate marine waters. The Long Island Sound Study (LISS) and the NY/NJ Harbor Estuary Program (HEP) share a Systemwide Nutrient Work Group. The mission of this work group is to provide recommendations to the management conferences on the use of the System Wide Eutrophication Model to develop a dissolved oxygen TMDL for the HEP and to reassess the LIS TMDL for the LISS.

The DEC believes that the Systemwide Nutrient Work Group is the appropriate forum to coordinate the application of the marine dissolved oxygen standard. DEC appreciates IEC's support and offer of assistance in that endeavor.

Issue Raised: F- 51 - Revision of Standards to Reflect Current Conditions - Marine DO [703.3]

IEC commends DEC for taking the initiative to revise their water quality standards to reflect current conditions that exist in NY's waters. *[Note - although this could be taken as a general comment, DEC interprets it to regard the standard for DO in marine waters, given its context in the comments submitted]*

Response F- 51:

DEC acknowledges the comment in support, but wishes to clarify its reasons for the actions taken. Standards are derived based on the best available science and in accordance with procedures designed to protect the best uses of the waters. The revised standard proposed for DO for marine waters was based on a comprehensive body of scientific information and largely follows the approach presented in the US EPA criteria document, Ambient Aquatic Life Water Quality Criteria for Dissolved Oxygen (Saltwater): Cape Cod to Cape Hatteras, November 2000. This latest and best science led the DEC to conclude that the standard being proposed was more

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scientifically appropriate than the existing standard of “never less than” 5.0 mg/L. Any correlation with existing conditions would be purely coincidental. However, DEC disagrees that it reflects “current conditions.” The revised standard, although less stringent than the existing standard, will drive water quality improvements in a majority of the marine district.

Issue Raised: F-52 - Fecal Coliform Limits: [703.4]

A citizen (Bruce McLean) stated that 6 NCSRR[sic] 700-704 and in particular, #703.4 does not mention any measure of fecal coliform limits and for the protection of all, should.

Response F- 52:

The existing regulations, in 703.4(b), specifically contain standards for fecal coliforms.

Issue Raised: F- 53 - Addressing Oncogenic Pollutants via Lowering Fecal Coliform Standards [703.4]

A citizen (John Droz) strongly advocates fecal coliform testing because it is simple, inexpensive, results are available quickly, and it provides useful and meaningful information. Commentor stressed the value of the fecal coliform test as an indicator. Whenever fecal coliform of human origin are present, this indicates the presence of other bacteria, viruses, protozoa, inorganic compounds, and oncogenic pollutants. Commentor advocates lowering fecal coliform standards as the simplest and most costeffective way to reduce carcinogens in state waters. Given the above, commentor expresses surprise that the class descriptive paragraphs in 701 and the test criteria in 703 are not more consistent and more strict.

Response F- 53:

DEC does not believe there is a link between fecal coliform levels and levels of oncogenic pollutants. Fecal coliforms are generally found in municipal waste (sewage), whereas oncogenic chemicals are generally discharged by industrial or commercial facilities.

Standards for oncogenic substances are derived at the stringent one-in-one million lifetime risk level, according to the rigorous scientific procedures in New York State regulation (6NYCRR 702.4). The discharge and presence of oncogenic substances is regulated via those standards.

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DEC does not rely on fecal coliform limits to reduce levels of oncogenic substances. In addition, because DEC uses highly sensitive specific tests for direct analysis of oncogenic substances in water, an indicator parameter is not needed.

DEC believes that the existing fecal coliform standards are protective of human health and the best uses of New York's waters. The fecal coliform limits are set as standards in waterbodies that are sources of drinking water as well as other primary contact waters. Limits for most parameters, including oncogenic chemicals (unless they are bioaccumulative), are calculated so that dilution in the receiving water is taken into account. However, fecal and total coliform bacteria, which are diluted and die off in the receiving water, are limited at the levels that are protective of human health and dilution is not allowed when calculating the limit.

Issue Raised: F - 54 - Insufficient Protection for Fecal Coliform for Class N, AA-S, A-S, AA, and A Waters [703.4]

A citizen (John Droz) notes the absence of fecal coliform test limits for classes AA-S, AA, and N, stating that evidently, DEC believes that the specified restrictions in their Part 701 descriptions are sufficient. Commentor does not find this argument persuasive, especially considering the simplicity and cost effectiveness of fecal coliform testing. Commentor recommends adding fecal coliform limits for Class AA-S, AA, and N in 703.4.

Commentor also expressed concern that the fecal coliform limits in 703.4 for Class N, AA, AA-S, A, A-S, and GA are unacceptably high. Given the fecal coliform limit for potable water is 4, how can DEC say that it will allow a potential drinking water source to have a fecal coliform limit of 200? This is a serious oversight that needs to be corrected. Commentor recommends adding/revising limits in 703.4 such that Class N, AA, AA-S, A, A-S and GA fecal coliform limit is 20, and the Class B fecal coliform limit is 100.

Commentor asserts that it is a mistake to think that just having a limiting description (as in AA-S) and not a fecal coliform test limit (or vice-versa) is sufficient protection for a water class. Both restrictive descriptions and fecal coliform limits are needed - and must be consistent - to adequately assure compliance.

Response F- 54:

DEC appreciates the commentor's concern with this issue. DEC finds the comments somewhat confusing, in that the commentor criticizes both the *lack* of fecal coliform standards - *and* the

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fact that they are too lenient, for the same water classes (N, AA, and AA-S). In actuality, the existing fecal coliform standard in 703.4 for Class A and A-S waters is 200 per 100 mL. There is no existing fecal coliform standard for Class N, AA, or AA-S waters. In addition, there is no specific numerical federal or New York State drinking water standard (MCL) for fecal coliform. In NYS, bacteriological compliance in drinking water is based on presence/absence of total coliform and/or E.coli. EPA regulates with total coliform and fecal coliform and/or E.coli testing - but again, on a presence/absence basis, not a specific number. The only time fecal coliform comes into play for NYS public water supplies is in Table 11A of the NYS Department of Health's regulations (10 NYCRR Part 5), as criteria for filtration avoidance for raw water - not as a drinking water MCL.

No waters are currently designated as Class N. However, Class N, at 701.2, is protected from sewage and other wastes by the prohibition against discharge in 701.2(b). DEC does not believe it necessary to add a numerical standard for fecal coliform for Class N, because the intent is to not allow any sewage waste to enter waters of this class. Similarly the existing prohibition in 701.3 protects AA-S waters from the discharge of sewage. DEC believes that the existing standard of 200 for fecal coliform for Class A and A-S waters is sufficient to protect their best uses, given that disinfection and other forms of treatment are necessary for use as a source of potable water supply.

The commentor is correct in that Class AA waters do not have a fecal coliform standard; these waters also do not have a discharge prohibition in Part 701 that AA-S and N classes do. However, 701.5 (regarding Class AA) acknowledges that treatment including disinfection is needed to meet their use as a potable water supply source. In addition, Class AA and GA waters have a highly stringent total coliform standard of 50. This would include, and be highly protective against, fecal coliforms. However, DEC will consider whether any addition or revision of fecal coliform standards is needed for a future rule making.

As to the recommended standard of 20 for N, AA, AA-S, A, A-S and GA waters, the commentor provides no technical basis in support of these values. DEC believes that the existing standards and prohibitions are adequately protective against coliforms.

Issue Raised: F-55 - Fecal Coliform [703.4]

IEC understands the rationale for the proposed amendment to 703.4(c) and thanked DEC for clarifying the intent of this new language during the Jan 31, 2007 public information meeting in New York City.

Response F- 55:

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DEC acknowledges this positive feedback.

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Raised: F-56 - Ammonia Regulatory Impact [703.5]

NYCDEP rejects DEC's determination that there will be no costs incurred by NYCDEP since the plants will be upgraded as part of the Jamaica Bay Comprehensive Plan. The planned upgrades for the 26th Ward and Jamaica WPCPs recommended in the Jamaica Bay Comprehensive Plan were not intended to meet the stringent ammonia limits that would be likely to be associated with the proposed ammonia WQBEL.

NYCDEP's modeling analysis of what effluent ammonia concentrations can be achieved as part of the recommended BNR upgrades indicates that it is unlikely that either WPCP can reliably comply with the proposed effluent ammonia limits. Meeting these limits becomes more difficult during wet weather events and during colder months (NYCDEP attached preliminary modeling analysis for 26th Ward WPCP). There is also a strong possibility that imposing these proposed ammonia limits will require multi-million dollar upgrades beyond those envisioned under the Jamaica Bay Comprehensive Plan.

Response F-56:

DEC had determined that there was no regulatory impact to the Jamaica Bay and 26th Ward facilities due to promulgation of the new marine ammonia standard because it was expected that any necessary treatment plant upgrades would be directed towards reducing discharges of total nitrogen to mitigate low dissolved oxygen levels in Jamaica Bay. Thus, reducing ammonia, a portion of total nitrogen, would not be expected to be the controlling factor in any required treatment plant upgrades. Further, the Jamaica Bay Comprehensive Plan has not yet been approved by the Department so any discussions regarding capability of those upgrades is premature. The Department will evaluate seasonal limits, as noted above, and may evaluate impacts of wet weather when more information is available.

Issue Raised: F-57 - Methodology Used to Calculate the Proposed Ammonia Water Quality Based Effluent Limit (WQBEL) for the 26th Ward and Jamaica Water Pollution Control Plants (WPCPs) [703.5] NYCDEP raised several concerns regarding the methodology use to develop the Water Quality Based Effluent Limits (WQBELs) for Ammonia at both the 26th Ward and Jamaica Water Pollution Control Plants (WPCPs).

a) Temperature, pH, Salinity, and Seasonal Limits. NYCDEP stated that the use of a 25°C temperature is overly protective and not required for year round protection of aquatic life. A

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lower cold water temperature should be used to develop a seasonal WQBEL for the winter season. Regarding the use of a 90th percentile pH as occurring year round, NYCDEP stated that this pH can occur at any time during the year, but the 90th percentile temperature only occurs during the warmer months. NYCDEP also noted that the use of 90th percentile salinity concentrations is less protective because unionized ammonia increases with decreasing salinity. Therefore, the 10th percentile, not the 90th percentile salinity concentration should be used in the calculation. NYCDEP attached a recommended methodology for calculating a seasonal WQBEL that they believe is more appropriate, and protective of aquatic life.

b) Use of a 1.0 dilution factor in the near-field for 26th Ward. NYCDEP states that, if this dilution factor is applied, the WPCP effluent pH, temperature, and salinity should be used for the near-field WQBEL calculation rather than the ambient water conditions outside of Hendrix St. Canal (in Jamaica Bay).

Response F-57:

a) Temperature, pH, Salinity, and Seasonal Limits. DEC will evaluate the establishment of seasonal effluent limits for all affected wastewater treatment facilities. The evaluation will be dependent upon the availability of ambient data (temperature, pH, and salinity), especially for the cold season. DEC intends to refine the ammonia limits when each individual permit is renewed and will request necessary data from the permittee.

DEC uses 25°C as the critical temperature when developing WQBELs for oxygen depleting substances, including ammonia, in the absence of site-specific information. In the case where sitespecific ambient temperature data is available, DEC will evaluate the 90th percentile temperature to determine whether it is higher than 25°C and use the highest (most protective) value. Where seasonal limits are to be calculated, the 90th percentile temperature and pH of each season will be calculated.

DEC has reviewed the ambient temperature data for the receiving waters of the NYC treatment plants and, although the temperature does exceed 25°C on some days, the 90th percentile temperature is less than 25°C. Therefore, DEC used 25°C as the critical temperature for calculation of the preliminary ammonia WQBEL. DEC will reevaluate the temperature data when developing seasonal limits.

DEC will use the lowest 10th percentile salinity for refining the previously computed ammonia limits for all the dischargers. DEC agrees with NYCDEP's conclusion that the impact of this change (using 10th versus 90th percentile salinity) is very minimal when computing the ammonia limit.

b) Use of a 1.0 dilution factor in the near-field for 26th Ward: According to DEC guidance, the

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critical receiving water characteristics should be used in the development of WQBELs so that the best usages of the receiving water are protected. It is not appropriate to replace the characteristics of receiving waters with the characteristics of a wastewater treatment plant's effluent. DEC guidance further directs that effluent limits should be set *at the standard* when dilution in the waterbody is low.

In this case, the discharge from 26th Ward wastewater treatment plant dominates the receiving water and the flushing in Hendrix Creek is poor. Ambient data from Hendrix Creek is not available. Thus, in order to protect local waters from the influence of the discharge from Hendrix Creek and also be protective of Hendrix Creek itself, DEC has used ambient pH, salinity and temperature data obtained from representative monitoring stations within Jamaica Bay to reflect the environmental quality of the ambient waters. These data were used to develop the total ammonia concentration equivalent to the proposed standard for unionized ammonia. Ambient pH, salinity, and temperature reflect the influence of the discharges in the immediate area as well as the characteristics of the water to which the standard will be applied in Jamaica Bay. The total ammonia concentration thus calculated for the standard was applied to the calculation of the effluent limit so as to assure protection of both Hendrix Creek and Jamaica Bay.

As noted above, DEC will re-evaluate the preliminary calculations of ammonia WQBELs and make appropriate adjustments when each permit comes up for review. DEC will develop water quality-based seasonal effluent limits when long-term ambient data is available.

Issue Raised: F-58 - Enforcement of Proposed Ammonia WQBEL - and Jamaica Bay [703.5]

NYCDEP stated that to determine whether or not these limits can be achieved, it is critical to understand how they will be enforced. Will the effluent ammonia limits be a not to exceed daily limit, weekly limit, monthly limit, or annual limit? NYCDEP must know what limits DEC intends to promulgate in order to develop a WPCP upgrade plan to meet them. Whether or not DEC adopts NYCDEP's recommended methodology (see Issue F-57), NYCDEP's current WPCP upgrade plans have not taken into account more stringent ammonia limits. To date, all of the treatment alternatives evaluated to achieve water quality standard in Jamaica Bay as part of the Jamaica Bay Comprehensive Plan were focused on achieving a 12 month rolling average for total nitrogen reduction and the DEC did not give NYCDEP any indication that it should also be looking into ammonia limits when it developed its Jamaica Bay Comprehensive Plan.

Response F-58:

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The ammonia water quality based effluent limit will be a daily maximum limit. According to DEC guidance, a water quality based effluent limit for protection of aquatic life should be stipulated as a daily maximum. This provides protection for sensitive aquatic life stages.

Issue Raised: F-59 - Proposed Standard for Metolachlor Should be Revised [703.5]

Syngenta provided both oral comments (including a PowerPoint presentation) at the public hearing, and extensive written comments and reports. Syngenta requests that DEC revise the proposed standard for metolachlor (9 ug/L). Syngenta request has three parts:

- a. Syngenta asserts that the submitted data indicate that metolachlor is not likely to be a human carcinogen and that, under the terms of existing Section 702.4(a), metolachlor should be regulated using a margin- of-exposure (threshold) approach as employed by the EPA-Office of Water in its development of the existing Federal lifetime Health Advisory Level (HAL) of 70 ug/L (ppb).
- b. Alternatively, Syngenta requests that DEC adopt the proposed changes to 6 NYCRR 702.4 prior to establishing the water quality standard for metolachlor, and that the metolachlor standard be repropose based on the revised procedures.
- c. Furthermore, Syngenta requests that the information and reports submitted to the hearing record be considered in the revision of the standard, and asserts that this additional information provides data on the mode of action and oncogenic potential of metolachlor that support the use of a non linear at low doses (threshold) model to derive an ambient water quality standard for metolachlor under the newly adopted 702.4(a).

The important elements of Syngenta's comments on the oncogenic mode-of-action for metolachlor include:

- metolachlor does not readily undergo N - dealkylation in the rat; thus S-metolachlor is not capable of being transformed metabolically to the proposed carcinogenic specie(s).
- studies indicate that S-metolachlor is toxicologically and environmentally similar to metolachlor; thus the designations are used interchangeably in the comments.
- Syngenta has developed significant new data on metolachlor relating to the mode of action underlying the slight increase in liver tumors in female rats in two chronic bioassays on

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metolachlor. Weak liver tumor response is not related to formation of reactive genotoxic metabolite, nor to any genotoxic effect of metolachlor observed in plant species.

- mode of action underlying the occurrence of liver tumors is related to several key events including proliferation of smooth endoplasmic reticulum, induction of P450 metabolizing enzymes, stimulation of hepatocyte hypertrophy, accelerated growth of eosinophilic preneoplastic foci, and development of benign liver tumors.
- there is a threshold dose below which none of these events is initiated.

Response F-59:

This response is in three parts, to the three points raised by Syngenta, above (a, b, and c)

a. DEC, in consultation with the New York State Department of Health (DOH), rejects the commentor's assertion. Metolachlor meets the definition in regulation (6 NYCRR Part 700) for causing an oncogenic effect, and under existing regulations at 702.4, the value derived must be set at the one-in-one million risk level.

b. The Department has changed the calculation for the standard for Metolachlor to comply with the new proposed procedure for deriving standards for protection of human health, as opposed to using the existing procedure. The Department made the determination that such could be done without changing the result of the rulemaking. The resulting standard is virtually identical to the standard calculated using the existing procedure. Similarly, a proposed procedure was also used to calculate the standard for Dissolved Oxygen (which is not being changed from the proposal) The Department believes that calculating the standard for Metolachlor using the proposed procedure should satisfy the concerns of the Commentors. See also the response to c, below.

c. At DEC's request, the New York State Department of Health (DOH), which had derived the proposed standard of 9 ug/L for metolachlor, reviewed the submitted comments and supporting data. The response to the comments and data are summarized herein. The DOH also revised the supporting Fact Sheet for metolachlor and derived a revised value of 10 ug/L, as explained herein and in the revised Fact Sheet. The DEC will adopt a final standard of 10 ug/L for metolachlor based on the revised Fact Sheet.

In particular, the DOH reviewed data on the mode-of-action for liver tumors induced by metolachlor to determine whether the data supported the use of a model that is non-linear at low doses to derive an ambient water quality value for metolachlor based on its oncogenic effects. The DOH concluded that the mode-of-action analysis of the data "does not provide unequivocal

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evidence of nonlinearity at low doses.” Thus, under proposed 6 NYCRR 702.4 (2)(d)(2) the derived ambient water quality standard must be based on a linear at low doses model and the 95 percent lower confidence limit on the human dose corresponding to an excess lifetime cancer risk of one-in-one million. The revised fact sheet contains a full discussion and documentation of the DOH’s analysis, and recommends an ambient water quality standard of 10 ug/L, which corresponds to the lower bound estimate on the dose associated with an excess lifetime human cancer risk of one-in-one-million.

The change of the value from a draft value of 9 ug/L to the final value of 10 ug/L reflects concurrent changes in the regulations describing the mathematical methods used to derive ambient water quality values based on oncogenic effects using linear at low doses models. The value of 9 ug/L was based on a lower bound estimate of the animal dose associated with an excess lifetime cancer risk of one-in-one-million, and was estimated (as required by existing regulation) using the linearized multistage model. The revised value of 10 ug/L is based on the lower bound estimate of the animal dose associated with an excess lifetime cancer risk of one-in-ten divided by 100,000 to obtain the lower bound estimate of the dose associated with an excess lifetime cancer risk of one-in-one-million (consistent with the revised regulation). It was estimated using the mathematical model that best described the data within the range of observation. All other steps in the derivation were the same as those used to derive the draft value.

The DOH also revised the derivation of a potential ambient water quality value based on the nononcogenic effects of metolachlor. This change was done to insure that the derivation remains consistent with the concurrent changes in the regulations describing the water consumption parameters used to derive a value from a reference dose (referred to in the existing regulations as an acceptable daily intake, or ADI). The draft value of 68 ug/L (based on the existing regulations) was based on the application of a 1,000-fold uncertainty to the ADI (32 ug/kg/day), the use of adultspecific water consumption rate (a 70-kg adult drinks 2 liters of water per day, or 28.6 ml/kg/day), and 20% relative source contribution (i.e., allocating 20% of the reference dose to drinking water). The revised value of 125 ug/L is based on the application of a 300fold uncertainty to the reference dose (32 ug/kg/day), the use of an average age-specific water consumption rate from birth to age 18 years (0.051 L/kg/day), and allocating 20% of the reference dose to drinking water.

In both derivations, an uncertainty factor is used to compensate for the potential that immature organisms (e.g., children) might be more sensitive to the effects of metolachlor than adult organisms (see revised fact sheet for full discussion). The magnitude of the uncertainty factor was reduced from 10 to 3 given the weak evidence on the greater sensitivity of immature organisms. The use of an age-specific water consumption rate is necessary under the regulations when there are data (as there are for metolachlor) to suggest that children may be more sensitive

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than adults to the effects of a chemical. The revised fact sheet provides the data, methods, and references to support the age-specific water consumption rate of 0.051 L/kg/day, and the derivation of the revised potential ambient water quality value of 125 ug/L.

Again, the DEC is adopting a final standard for metolachlor of 10 ug/L based on the cancer effect as described above and in the revised Fact Sheet.

Issue Raised: F-60 - Rationale for Revision to Groundwater Effluent Limitation for Copper [703.6]

Two commentors (Copper Development Association and The Business Council) address this issue; their comments are combined herein. There seems to be no reason for this proposed change other than consistency with the regulatory approach used to set effluent limits for other inorganics (i.e., double the DEC ambient standard for groundwater).

Response F-60:

This understanding of DEC's reasoning is correct. The proposal revises the groundwater effluent limitation from 1000 ug/L to 400 ug/L, in order to make copper consistent with other metals, by having the groundwater effluent limitation twice the existing ambient standard. This revision is intended to (and does) make the effluent limitation for copper (relative to its ambient standard) *consistent* with other metals.

Issue Raised: F- 61 - Proposed Revision to Groundwater Effluent Limitation for Copper is Arbitrary and Capricious [703.6]

The Copper Development Association contends that the basis of the proposed revision is not transparent and appears to be arbitrary and capricious, and without scientific justification, and the State should allow additional time to comment on the scientific merit of the reduction in the copper standard.

Response F-61:

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The Revision of the groundwater effluent limitation for copper from 1000 ug/L to 400 ug/L was done in order to make the copper standard consistent with that of other metals, by having the groundwater effluent limitation twice the existing ambient standard. Rather than being arbitrary and capricious, this revision makes copper consistent with other metals.

Issue Raised: F-62 - Scientific Basis for Revision to Groundwater Effluent Limitation for Copper [703.6]

Two commentors (The Business Council and Copper Development Association) raised this issue; their comments are combined herein. Safety factors to ensure safe discharge limits should not be the same for each metal. Metals have unique dose-response characteristics which should be considered. Copper is not a persistent, bioaccumulative and toxic (PBT) chemical and deserves special consideration.

Commentor provided information on copper as an essential micronutrient and on its drinking water standard. The recommended daily dietary requirement is 900 ug for an adult and 340 - 440 ug for a child. The maximum daily copper intake that is likely to pose no risk is 10,000 ug in an adult and 1000

- 3000 ug in children. The EPA's primary drinking water standards (MCL and MCLG) are 1.3 mg/L; EPA's secondary drinking water standard is 1 mg/L. Thus, the current groundwater effluent limitation meets both EPA standards. Given the effluent dilution by groundwater, the existing effluent limitation of 1 mg/L is reasonable and protective. The World Health Organization limit is 2.0 mg/L. People are allowed to drink and water lawns with water containing up to 1.3 mg/L copper, but are not allowed to discharge it at those levels. Absent specific public health or environmental quality basis for the proposed change, DEC should not enact its proposed modification to the GA effluent limit for copper.

Response F-62:

The proposal does not address the *ambient* groundwater standard for copper, which is set at 200 ug/L, based on a NYS DOH standard [10 NYCRR Part 170]. All the proposal does is to revise the groundwater effluent limitation from 1000 ug/L to 400 ug/L, in order to make copper consistent with other metals, by having the groundwater effluent limitation twice the existing ambient standard.

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DEC wishes the commentors to be aware of existing provisions in the regulations at 6 NYCRR 702.16 (derivation and implementation of effluent limitations), 702.17 (variances to effluent limitations based on standards and guidance values), 702.19 (modifications of groundwater effluent limitations), and 702.21 (exceptions to groundwater effluent limitations).

The groundwater effluent limitation for any substance, including copper, is not based on the doseresponse characteristic of the substance, nor its bioaccumulative potential. The extent to which a substance bioaccumulates is only a factor when deriving water quality standards for surface waters, in which wildlife or humans can be exposed via consumption of contaminated fish. The groundwater effluent limitation is set solely to achieve the groundwater standard.

DEC takes this opportunity to broadly address the difference between the EPA drinking water MCLs and ambient water quality standards that protect sources of drinking water. DEC ambient drinking water source standards are derived according to scientific procedures in 6 NYCRR Part 702, that require the standard to be the pure, science and risk-based number, independent of the current ability to treat or detect it at that level, and independent of any regulatory impact [although DEC must determine what that impact is]. EPA MCLs (and state MCLs) for drinking water, are based on health protection, but also must take into account treatability, feasibility, economics, and detectability. DEC ambient standards must be at least as stringent as the NY State MCL, but EPA - and state - MCLs are frequently less stringent than DEC's ambient standards. There is an additional advantage in the ambient standard being lower than the drinking water standard - it gives some margin for safety should an exceedance of the ambient standard occur - such that it might still allow the drinking water standard to be met - and avoid the cost of treating a drinking water supply in order to reduce contamination to the level of the MCL.

Because groundwater effluent limitations are set based on the ambient standard, the information submitted on the health effects is not relevant to the revision of the *effluent* limitation. However, DEC will retain and consider this information when deciding whether to revise the ambient groundwater standard for copper in a future rule making. If the ambient groundwater standard for copper is revised in the future, it is expected that the corresponding groundwater effluent limitation will be revised at the same time.

Issue Raised: F-63 - Copper - Burden on Dischargers [703.2]

The Copper Development Association states that when standards are overly restrictive, an unnecessary technical and financial burden is placed on the discharger. It should be possible to determine a scientifically sound and safe discharge limit without the use of an arbitrary safety factor.

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Response F-63:

The DEC's analysis for the rule did not identify any regulatory impact for the reduction of the groundwater effluent limitation for copper from 1000 ug/L to 400 ug/L. As stated on p. 17 of the RIS, 19 permittees that discharge copper to groundwater were identified, but analysis by DEC showed that there was no regulatory impact to any of them. See also issues above regarding how the proposed groundwater effluent limitation for copper was determined.

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ISSUES RE PART 704

Issue Raised: G-1 - Similarity Between 6 NYCRR 704.5 and CWA 316(b) [704.5]

Entergy acknowledges DEC's contention that 704.5 is separate from US EPA's efforts under section 316(b) of the federal Clean Water Act, but notes that 6 NYCRR 704.5 and CWA 316(b) are virtually identical and that 704.5 was modeled on 316(b); thus similar definitions would be the presumptive norm.

Response G-1:

Entergy's statement that 6 NYCRR §704.5 and 33 USC §1326 are "virtually identical and derivative" is an observation, and may represent Entergy's singular, individually-held interpretation; however, it does not constitute the Department's interpretation nor is it authoritative. Entergy further observes that similar definitions between the two separate statutory provisions would be "the presumptive norm." Again, this may be Entergy's own interpretation, and to that extent it is speculative, but it is not the Department's and it does not represent an authoritative view of the statutes.

Issue Raised: G- 2 - Second Circuit Court of Appeals Decision in Riverkeeper v. USEPA [704.5]

Entergy states that nothing that DEC has proposed, or that Entergy's comments suggest for consideration, could be construed to run counter to the Second Circuit Court of Appeals decision in Riverkeeper v. USEPA ___ F.3d __ (2nd Cir. 2007); thus DEC need not delay the rule making during the pendency of the expected appeal of that decision.

Response G-2:

Entergy states that the Department need not delay this regulatory proposal during the pendency of an appeal of the Second Circuit Court of Appeals decision in Riverkeeper v USEPA 475 F.3d 83 (2d Cir. 2007). The Department considers this to be Entergy's observation; however, to the extent Department Staff may agree informally with Entergy, it does not govern the Department's timing for the rulemaking. This rulemaking is driven by the Department's substantive needs for regulatory revisions and the requirements of the State Administrative Procedures Act (L. 1975, Ch. 167, §1, as amended), not the appeal of the Second Circuit's decision. Moreover, the decision in Riverkeeper v. USEPA does not suggest any need to revise §704.5.

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Issue Raised: G- 3 - DEC Must Define “Adverse Environmental Impact” [704.5]

Entergy asserts that DEC needs to define “adverse environmental impact,” the most important term in 704.5. This term is critical to the overall implementation of 704.5, because whether a facility’s cooling water intake structure has such impact is the first issue to be decided in the implementation of that section. Commentor cites two DEC decisions (one interim). The proposal fails to describe the necessary threshold criteria by which one can determine the applicability of 704.5 to the operation of a cooling water intake structure. DEC is obligated to define what it means in 704.5 that a cooling water intake structure must incorporate technology to “minimize adverse environmental impact.”

Response G-3:

Entergy suggests that the Department add to this rulemaking a definition for the phrase “adverse environmental impact” as used in §704.5. The Department does not believe including a definition of “adverse environmental impact” is necessary and has not included such a definition in the final rulemaking, nor has it proposed any other revision to §704.5. The Department relies on standing agency decisions as precedent to determine the appropriate “best technology available to minimize adverse environmental impact” on a case-by-case basis. See, for instance, *Matter of Athens Generating Co., LP*, Interim Decision of the Commissioner, June 2, 2000, at 8 - 9; and *Matter of Dynegy Northeast Generation, Inc., On Behalf of Dynegy Danskammer, LLC*, (*Danskammer Generating Station*) Hearing Report, (“Danskammer Hearing Report”) at 51 - 52.

Issue Raised: G-4 - Definition of “Adverse Environmental Impact” [704.5]

Entergy states that this term must be defined to be impacts to populations of fish, shellfish, and wildlife. To satisfy ECL 17-0301(4), a demonstrated “adverse environmental impact” sufficient to trigger 704.5 should be defined to mean adverse changes in important population and community characteristics sufficient to (a) threaten the sustainability of susceptible populations, or (b) cause significant or potentially irreversible changes in community structure and function. Entergy attached an affidavit from Lawrence W. Barnthouse in support of this definition.

Response G-4:

Entergy’s recommendation that the term “adverse environmental impact” be defined, and that the

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definition be impacts to populations of fish, shellfish, and wildlife, as opposed to individual organisms, is overly exclusive and therefore inappropriate as a regulatory matter, and would conflict with previous Department decisions. With respect to minimizing adverse impacts from cooling water intake structures at electric generating power plants, the Department's decisions have determined that impacts to individual organisms are consequential, and that adult phases of organisms are not the only life stage of consequence. As a result, in that context, the Department does not rely on data concerning impacts at a population level to determine whether an adverse environmental impact occurs. See *Matter of Dynegy Northeast Generation, Inc., On Behalf of Dynegy Danskammer, LLC, (Danskammer Generating Station) Hearing Report*, ("Danskammer Hearing Report").

The threshold for determining whether any facility's cooling water intake structure would result in any adverse environmental impacts is very low. In a letter dated August 7, 2002, the DEC Deputy Commissioner for Natural Resources stated that any entrainment or impingement mortality would be considered an adverse environmental impact. Given this low threshold, 6 NYCRR 704.5 requires a consideration of each of the following four factors: location, design, construction, and capacity. The Commissioner has previously held that determining whether a particular technology is the best one available is to be made on a case-by-case basis considering various factors, including costs, the age of the facility, the levels of entrainment and impingement mortality, the additional energy, if any, needed to support improved technology, or other relevant concepts. (Citations and footnotes omitted.)

Danskammer Hearing Report, at 52. See also *Matter of Application for a State Pollutant Discharge Elimination System (SPDES) permit by Mirant Bowline, LLC* ("Bowline 3"), Commissioner's Decision, March 19, 2002: "In the present case, it is undisputed that the proposed

[cooling water intake structures] in Bowline Pond will result in adverse environmental impacts, specifically fish mortalities." *Bowline 3* at 17.

In addition, defining adverse environmental impact in terms of impacts to fish populations would be less stringent than requirements in the federal Clean Water Act (33 U.S.C.A. §§1251 - 1387), which was given consideration in the recent decision in *Riverkeeper v. USEPA*, 475 F. 3d 83, 123-125, citing, inter alia, *Riverkeeper v USEPA*, 358 F.3d 174, 190. The statutory structure thus demonstrates that Congress did not intend to limit 'adverse environmental impact' . . . to population-level effects.

As explained by the Department in response to Comment C-2, the Department can and must

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manage its natural resource responsibilities as appropriate to fulfill the State's regulatory functions. In that regard, selectively defining any term or phrase strictly in terms of populations, to the exclusion of individual organisms, would be inappropriate.

Issue Raised: G-5 - Definition of "Adverse Environmental Impact" Must Include Informed Debate [704.5]

Entergy states that an informed debate is essential because the environmental, social, and economic consequences of any particular interpretation may be substantial and should be reviewed under SEQRA.

ECL 17-0301(3)(b)-(c) requires that water quality standards be developed and implemented in a way that accounts for historic uses of New York waters and accommodates sometimes competing uses of the same water body (including for industrial purposes).

Impacts on air emission, public health, and electricity pricing and reliability are directly related to the extent of any changes to intake structures (driven by finding of adverse environmental impact) to intake structures under 704.5 that would reduce generating capacity (commentor provides details). Entergy attached a detailed Emissions Avoidance Study ("TRC Study") that supports the point that increased air emissions will result from a reduction in generating capacity. Entergy also attached a "NERA Study" in support of the point that reduced generating capacity results in an increase in consumer expenditure on electricity.

Because consequences of a definition can be severe, informed debate should occur that balances water quality against impacts to an industry that provides an essential service, the consumer paying for electricity, and the public breathing the air, all in the context of a comprehensive review under SEQRA. That debate should take place in this rule making and result in a definition of adverse environmental impact that balances the interests of all New Yorkers.

Response G-5:

Entergy recommends that the Department engage the public in an informed debate on the definition of "adverse environmental impact". As described above, this rulemaking does not include a definition of the phrase "adverse environmental impact" and the Department relies on its prior decisions to implement it. Should issues arise in association with a cooling water intake structure that pertain to "[i]mpacts on air emission [sic], public health, and electricity pricing and reliability", as expressed on page 7 of Entergy's comment letter, those issues should be

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considered in the appropriate forum. That may take the form of an adjudicatory proceeding for a particular SPDES permit proposal or renewal. However, it does not present itself as an issue to be addressed as a public debate here because it is not associated with any provision of the proposed rulemaking.

ISSUES NOT RELATED TO A SPECIFIC ASPECT OF THE PROPOSAL

Issue Raised: H-1 - Toilet Related Debris

Scensible Source requested that DEC add a definition of “toilet related debris” to Part 700 (and provided suggested language for the definition). Scensible Source described adverse effects from such debris to both sewage systems and the environment, and called upon DEC to implement strict regulations and labeling policies for products claiming to be flushable, dispersible or biodegradable. NYS should take preventative measures to ensure the reduction of toilet related debris such as sewer use laws and public awareness campaigns.

Response H-1:

Adding such a definition would be beyond the scope of the currently proposed rule. However, DEC will consider adding such a definition in a future rule making, and whether - and where, such regulations could be established. The commentor is encouraged to contact their legislative representatives regarding sewer use laws.