

NYSDEC v. NYCDEP and New York City  
DEC Case No: D007-0001-11  
SPDES Permit # NY 0264652  
(Cat/Alum SPDES Permit)

## **Order on Consent**

### **Response to Comments**

In June of 2005, New York City applied for a State Pollutant Discharge Elimination System (SPDES) permit from the New York State Department of Environmental Conservation (DEC) for the addition of aluminum sulfate (Alum) and sodium hydroxide into the Catskill Aqueduct to improve settling and reduce turbidity in the Kensico Reservoir water column. The SPDES permit which DEC issued in 2007, authorizes the City to use Alum at the City's Kensico Reservoir (Cat/Alum SPDES permit) when necessary to address turbidity in water from the Catskill water supply system. DEC brought an enforcement proceeding against New York City for violations of the Cat/Alum SPDES Permit, including the City's failure to submit approvable studies and reports on dates established in the Cat/Alum SPDES permit, failure to identify and carry out projects in the Ashokan Reservoir watershed as required by the Cat/Alum SPDES permit, and failure to provide information DEC needed to assess potential impacts to biota, residents and property related to water flowing through the Ashokan Reservoir Release Channel (Release Channel).

DEC negotiated a draft Order on Consent with the City, which was made available for public review and comment. This document provides DEC's response to comments submitted by the general public, governmental representatives and groups, including a Petition submitted on December 16, 2011, by Ulster County and Riverkeeper, Inc. to require a SPDES permit to regulate releases from the Ashokan Reservoir; and comments DEC received at a public hearing. The public process associated with the draft Order on Consent provided a robust opportunity for public review and comment (summarized herein) on this approach. The draft Order on Consent has been revised in consideration of public comments received.

The City signed, and DEC Commissioner Joe Martens issued, a final Order on Consent on October 4, 2013 (Order). The Order incorporates a State Environmental Quality Review (SEQRA) process to assist DEC in determining the appropriate conditions to establish in a modification of the Cat/Alum SPDES permit. The Order requires the City to adhere to an Interim Release Protocol (IRP) which was developed to balance multiple competing interests including protecting the New York City water supply, flood mitigation, recreational use, and aquatic life support; undertake an environmental review to analyze alternative methods of operating the Catskill Water Supply System; and pay significant penalties. The public process mandated by the Order and by SEQRA law, with DEC acting as lead agency for the environmental review, ensures another robust opportunity for public review and comment prior to the DEC Commissioner's issuance of an updated Cat/Alum SPDES permit.

**Comments and Responses. The DEC received numerous comments on the Order. The following is a summary of the comments and DEC response.**

Comment 1. Supports NYSDEC's efforts to require completion of an environmental review to evaluate conditions in the Lower Esopus while also addressing Alum use that impacts Kensico Reservoir.

DEC Response to Comment 1: Comment noted.

Comment 2. The Order on Consent should be modified to include a guaranteed commitment from DEC and DEP to do no further damage to the Lower Esopus Watershed communities.

Comment 3. The increase in turbidity overall over the past few years is straining our water treatment plant to the point we're in the middle of an upgrade, a multi-million plant upgrade and still have to do emergency repairs in the interim to keep it operating in order for that water to go into the Catskill Aqueduct. It would mean that we have to have more frequent plant upgrades because we are burning out all of our equipment at a much more rapid pace and would have to replace the whole plant every 10 years rather than 20, which would mean a huge strain on our community here in the village.

Comment 4. I hoped that the muddy water does not take precedence over the flooding of our houses. Because the flooding is really what is important, as far as I'm concerned. Again, I'm hoping that when we have to choose between flood and mud, that flooding is the most important thing we have to deal with here.

Comment 5. There should be a measurement methodology to ensure that the environmental, recreation and economic benefits to the Lower Esopus are given the same consideration as water supply.

Comment 6. Appendix A. VI.2.f. Comparison of all impacts e.g., loss of tourism dollars, community enjoyment of resource, etc., to Lower Esopus not just "environmental impacts."

DEC Response to Comments 2-6. The Order requires the City to identify and evaluate the potential significant adverse environmental impacts associated with a modification of the Cat/Alum SPDES permit by undertaking an environmental review, performed in accordance with the State Environmental Quality Review Act (SEQRA) analyzing alternative methods of operating the Catskill Water Supply System (including a comparative analysis of the potential adverse and beneficial impacts for each alternative) in the following categories: No-Action Alternative (no permit modification); reasonable alternatives for operation of the Ashokan Reservoir including but not limited to operation of the Release Channel in accordance with the IRP and any future amendments of it; reasonable alternatives for operation of the Catskill Aqueduct including but not limited to options to discharge water from the Catskill Aqueduct prior to its reaching the Kensico Reservoir; and reasonable alternatives for operation of the Kensico Reservoir. The SEQRA review required under this

Order and by the Cat/Alum SPDES permit modification request is the proper forum for consideration of the environmental, recreation and economic benefits and impacts to the Lower Esopus, recognizing that NYCDEP operates the Ashokan Reservoir for purposes of public water supply. DEC is committed to balancing all the competing interests in compliance with the SEQRA, Cat/Alum SPDES permit, IRP and the Final Release Protocol.

## **SEQRA**

Comment 7. The Consent Order should guarantee public involvement in key decision-making related to the SEQRA and permit modification processes and periodic reassessment of any interim Ashokan Release Strategy.

Comment 8. The Consent Order should require compliance with a SEQRA process that is comprehensive, guarantees full transparency and public involvement, and the outcome of which is not pre-determined.

DEC Response to Comments 7 and 8. The Order does all of that. Under SEQRA and the Order, both the draft scoping document and draft EIS will be subject to a robust opportunity for public participation through a formal public notice and comment process.

Comment 9. The Consent Order fails to clearly designate roles for each agency in the process (*see* conditional language in footnote 1 to Section VI of the Consent Order Schedule of Compliance), and allows the City unnecessary discretion in identifying the alternatives that must be examined. DEC should modify the language of the Consent Order to unambiguously establish DEC's role as lead agency and to ensure objective analysis of all reasonable alternatives.

DEC Response to Comment 9: DEC has declared its intention to be lead agent. The role of the lead agency is set forth by rule and does not need to be memorialized in the Order.

Comment 10. The enlargement of the release channel to flow capacity of 1 billion gallons per day poses an ever greater risk of damage to the Lower Esopus Valley than the current maximum of 600 million gallons per day. And the impact of this increase needs to be analyzed and a predictive model developed. This should be included in the Draft Environmental Impact Statement.

DEC Response to Comment 10. The Order requires the City to identify and evaluate the potential significant adverse environmental impacts associated with reasonable alternatives for operation of the Ashokan Reservoir. The current IRP limits releases to 600 mgd for Spill Mitigation releases and, for Operational releases, limits the combined releases and spilling to 1,000 mgd. Under the Order the City is required to submit to DEC a draft scope for an Environmental Impact Statement (EIS) comprehensively assessing the potential impacts (biological, chemical, physical, and economic) from the City's proposed modifications to the Cat/Alum SPDES permit including, but not limited to, releases from the Release Channel to the Lower Esopus Creek in accordance with the Interim Protocol - within 60 days after the Order was signed by the DEC Commissioner on October 4, 2013. DEC will issue a draft scoping document for public review in accordance with time frames established in SEQR

regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS such as the one provided here, in preparation of a final scope that the applicant will be required to use to prepare the DEIS.

Comment 11. I'm part of the Port Ewen Sewer Water District and our water is drawn from the Hudson River and filtered. I'm here to speak on behalf of everyone in my water district to say that we want to make sure that whenever there's an environmental review, it extends to the impacts of these discharges on the Port Ewen Water District.

DEC Response to Comment 11. The alternatives analysis is expected to analyze effects of releases on downstream users.

Comment 12. The Wallkill and Hudson River blow-offs and bypass of the West Basin should be evaluated as potential alternatives in the draft environmental impact statement.

DEC Response to Comment 12. The Department expects the suggested alternatives will be considered as part of the EIS review of options to discharge water from the Catskill Aqueduct prior to its reaching the Kensico Reservoir pursuant to SEQRA.

Comment 13. The Draft Consent Order is not in full compliance with SEQRA in that it answers an outcome: the continuation of releases and the elimination of Alum use at the Kensico Reservoir, and lacks a comprehensive alternatives analysis.

Comment 14. The draft Order on Consent should require that the DEP and the City of New York apply for and obtain a separate SPDES permit for these activities, and procedure for this process should comply with all environmental laws and rules including SEQRA, which would require an alternatives analysis that examines alternatives to turbid water discharges rather than considering turbid water discharges as an alternative to Alum use.

DEC Response to Comments 13 and 14. The Order includes commitments to a full SEQRA review and consideration of all reasonable alternatives. The Order and the SEQRA review required by the Cat/Alum SPDES permit modification request is the proper forum to identify and evaluate the potential significant adverse environmental impacts associated with a modification of the Cat/Alum SPDES permit by undertaking an environmental review, performed in accordance with the State Environmental Quality Review Act (SEQRA) analyzing alternative methods of operating the Catskill Water Supply System (including a comparative analysis of the potential adverse and beneficial impacts for each alternative) in the following categories: No-Action Alternative (no permit modification); reasonable alternatives for operation of the Ashokan Reservoir including but not limited to operation of the Release Channel in accordance with the IRP and any future amendments of it; reasonable alternatives for operation of the Catskill Aqueduct including but not limited to options to discharge water from the Catskill Aqueduct prior to its reaching the Kensico Reservoir; and reasonable alternatives for operation of the Kensico Reservoir.

Comment 15. The final Order on Consent should remove the reference to elimination of Alum requirements in the existing Cat/Alum SPDES permit as this is prejudicial to the

outcome of the environmental impact statement required in the draft proposed Order on Consent.

Comment 16. DEC should delete all provisions in the Consent Order dictating that Alum use as a turbidity control mechanism will be eliminated and that Waste Channel releases will continue or replace those clauses with conditional language.

Comment 17. The Cat/Alum SPDES Permit does not require DEP to eliminate the use of Alum in the Catskill Aqueduct so the phrase “Elimination of Alum” should be deleted from Schedule of Compliance Sections III, IV and V. Presumption of zero Alum use in 10 years through the use of the Watershed Channel should not be in the Consent Order or an assumed outcome. The City should be permitted to continue to use Alum. Alum use must be included in alternatives in the EIS and quantified along with other turbidity reduction alternatives.

Comment 18. The alternatives section of the EIS must include Alum use. Pending completion of the full EIS, the goal of reducing Alum usage through the use of the Waste Channel should be suspended.

DEC Response to Comments 15-18. The Order does not include a reference to the elimination of Alum, but rather minimization of Alum use to the maximum extent practicable. As previously noted, a full SEQRA review and consideration of all reasonable alternatives will be conducted. Under the Order the City is required to submit to DEC a draft scope for an EIS comprehensively assessing the potential impacts (biological, chemical, physical, and economic) from the City’s proposed modifications to the Cat/Alum SPDES permit including, but not limited to, reasonable alternatives for operation of the Catskill Aqueduct including but not limited to options to discharge water from the Catskill Aqueduct prior to its reaching the Kensico Reservoir; and reasonable alternatives for operation of the Kensico Reservoir - within 60 days after the Order was signed by the DEC Commissioner on October 4, 2013. DEC will issue a draft scoping document for public review in accordance with time frames established in SEQR regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS such as the ones provided here, in preparation of a final scope that the applicant will be required to use to prepare the DEIS.

Comment 19. The Consent Order should specify additional potential turbidity reduction alternatives that must be considered in the EIS including at the very least limited use of Alum, structural modifications to support the continued use of Alum, activating the Hudson Chamber, and constructing an interconnection between the upper and Lower Esopus.

DEC Response to Comment 19. The Order has been revised to clarify that NYCDEP will undertake a full environmental review in accordance with SEQRA. See also DEC Response to Comments 2-6, and 10.

Comment 20. The final Order on Consent should conclude that significant new hydrologic events have occurred and new data is available and require an immediate update of the Turbidity Control Alternatives Analysis that incorporates that data.

Comment 21. The final Order on Consent should require a reexamination of the Value Engineering Study directed at the structural measures available to reduce the need for releases and the reduction in the duration and amount of turbidity loading in the Lower Esopus.

Comment 22. The conclusions of the Final Turbidity Control Alternatives Analysis and the Phase 3 Turbidity Reduction Value Engineering Report must be revisited and justified in an open and public manner through the ARWG and EIS process.

Comment 23. It is of the utmost importance that a significant and in-depth environmental review, including the collection of baseline data, be conducted relative to the current condition of the creek.

Comment 24. Recommends that the proposed environmental review contain the necessary information about the Lower Esopus Creek to inform future regulatory decisions and assist NYSDEC in ensuring attainment of water quality standards in accordance with the Clean Water Act.

DEC Response to Comments 20-24. See DEC responses to comments 2-6 and 10. This review will incorporate the best available technical data.

Comment 25. Appendix A. VI. 9. Does not provide for recourse for un-mitigatable impacts.

DEC Response to Comment 25. The Order has been modified to clarify that a full SEQRA review is required. Under 6 NYCRR § 617.9, the lead agency must consider the adequacy of the mitigation measures and alternatives proposed, and the analysis must identify, to the extent applicable, potential adverse impacts that cannot be avoided or adequately mitigated if the proposed action is implemented.

Comment 26. Appendix A. VI.2. Environmental Impact Statement draft scope should define what other alternatives will be examined based on the Phase III Value Engineering Study.

DEC Response to Comment 26. . DEC will issue a draft scoping document for public review in accordance with time frames established in SEQRA regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS such as the one provided here, in preparation of a final scope that the applicant will be required to use to prepare the DEIS.

Comment 27. The Consent Order should establish an interim Ashokan Reservoir Release Strategy that will govern releases until the SEQRA review and permit modification processes are complete and that does not guarantee a continuation of the turbid and destructive releases of the past two years as well as a process for revisiting the provisions of that release strategy on a regular basis with input from involved stakeholders and technical experts.

DEC Response to Comment 27. The Order includes an enforceable interim protocol that is in place to govern releases until the completion of SEQRA review and permitting. The Order includes commitments to a full SEQRA review and consideration of all reasonable

alternatives. The Order has been revised so that the IRP can be modified as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders. In addition the IRP in the final Order requires more flushing and includes more restrictive turbidity limits than the version in the draft Order on Consent.

Comment 28. Paragraph 20 of the Consent Order should be edited to provide that the requirements of the Schedule of Compliance of the Cat/Alum SPDES Permit that relate to reducing Alum use through turbidity reduction in waters flowing into the Catskill Aqueduct (both sections “b” and “d” of the Schedule) will only be satisfied through a report or plan that is based on a thorough SEQRA review which includes a comprehensive analyses of all reasonable alternatives.

DEC Response to Comment 28. Paragraph 20 of the Order is specific to a submittal required by the Cat/Alum SPDES permit to submit an approvable report analyzing alternatives to minimize the area of Alum floc deposition in the Kensico Reservoir when Alum is added to the Catskill Aqueduct and is not directly related to alternatives for turbidity reduction.

Comment 29. Any reference to ceasing Alum usage, including the sentence in Paragraph 21, “[t]he City anticipates that when all of the projects have been completed in June 2022, the City will no longer need to add Alum to reduce turbidity in water entering the Kensico Reservoir because more water will be available elsewhere in the system at times when the water entering the Kensico Reservoir from the Ashokan Reservoir is turbid,” should be deleted from the Consent Order.

DEC Response to Comment 29. The statement regarding the City’s anticipated conclusion that Alum addition will not be necessary when other capital projects are completed as noted in paragraph 21 of the draft Order on Consent is not predicated on continued use of the Release Channel or other potential options related to operation of the Catskill Aqueduct and Ashokan Reservoir in the future because more water will be available elsewhere in the system.

Comment 30. The administrative consent order should include as an alternative to be evaluated in draft environmental impact statement upstream treatment near the inlet of the Upper Esopus Creek to the West Basin of the Ashokan Reservoir.

A long-term approach to reducing turbidity in the West basin of the Ashokan Reservoir could be the creation of an Alum/polymer dosing station(s), located on the Upper Esopus Creek near the inlet to the West Basin. The final plan would have to include a sediment management component that utilizes the very upper end of the West Basin to settle solids and provide for removal of the sediment load.

Comment 31. A short term interim approach could include Alum/polymer dosing locations along the lower end of the Esopus Creek near the entrance to the West Basin.

DEC Response to Comments 30 and 31. Given the geometry of the inlet, the stream, and the volume of chemicals that would be required. DEC does not expect that such an alternative would be feasible or effective.

Comment 32. Appendix A. III. 7. and elsewhere references dredging floc that accumulated only since 2005 - City has been adding Alum for over 60 years, why only require to dredge floc accumulated since 2005?

DEC Response to Comment 32. The Cat/Alum permit which was effective in 2007 required NYCDEP to perform a Bathymetric/Benthic Report for the purpose of establishing a scientific basis for the quantity of Alum Floc to be removed. The analysis considered historical Alum use and Alum exposed to reservoir biota versus Alum already covered by non-Alum bearing sediments.

Comment 33. Paragraph 23, which purports to commit the parties to solving the problem with a long-term, science-based strategy, should be moved to the So Ordered Section to make that commitment an enforceable part of the Order.

DEC Response to Comment 33. The prescriptive point of this paragraph, the requirement to undertake an environmental review in accordance with SEQRA, has been included in the Order.

Comment 34. Paragraph 23 begins by affirming the City's and DEC's commitment to a "long-term science-based strategy for the releasing of water through the Ashokan Release Channel." This paragraph also sets forth that the City will "propose in an application for modification of the Cat/Alum SPDES permit a Revised Operating Protocol for the Ashokan Waste Channel to be based on the public comment and environmental review that will be done under this Order on Consent." The Consent Order should not predetermine that such releases will continue prior to undertaking a full environmental review. This paragraph should be edited to remove all reference to continued releases from the Waste Channel.

DEC Response to Comment 34. The Order has been modified to allow for modification of the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders. The final release protocol cannot be approved without consideration of alternatives set forth by the SEQRA process. Also, see response to comments 13 and 14.

Comment 35. Paragraph 24 states, "DEC and the City are committed to looking at a full range of turbidity management options for operation of the Ashokan and Kensico Reservoirs, the Release Channel and the Catskill Aqueduct." This commitment should be made enforceable by detailing explicit plans for reviewing all alternatives to the So Ordered Section and in the Schedule of Compliance.

DEC Response to Comment 35. The Order requires review of alternatives in accordance with the State Environmental Quality Review Act (SEQRA) and 6NYCRR Part 617. Part 617 requires such a full review of alternatives.

### **Filtration Avoidance Determination**

Comment 36. The City of New York should agree that it will not object to Filtration Avoidance Determination (FAD) programs being extended to affected downstream



properties and communities along the Lower Esopus that are not currently included in the FAD but are impacted by the actions of NYCDEP.

Comment 37. The FAD programs should be extended to Lower Esopus Creek communities.

Comment 38. Include Lower Esopus watershed communities in the City's watershed funding program. Lower Esopus municipalities have been and continue to be dramatically impacted by the City's water supply system, and as such, should enjoy the benefits of their watershed funding programs.

DEC Response to Comments 36-38. The Order includes provisions and penalties violations associated with DEP's Cat/Alum SPDES permit of which DEC is the regulatory agency. While DEC is consulted with, NYSDOH is the primary agency associated with the FAD and as such a DEC enforcement action cannot compel compliance with a FAD obligation.

### **Environmental Benefit Projects**

Comment 39. The Consent Order should impose equitable penalties and obligations to undertake environmental benefit projects (EBPs) that comply with DEC's own Civil Penalty and EBP policies that are commensurate with and address the violations and damages associated with DEP's unauthorized releases during the winter of 2010-11 which are subject of DEC's February 2011 administrative complaint.

DEC Response to Comment 39. The penalties and obligations contained in the final Order are consistent with the Department's Civil Penalty and EBP policies and are commensurate with and address the violations contained in the Order.

Comment 40. The City should not be allowed to use funding that they already committed to under the draft Order on Consent as environmental benefit projects. While these environmental projects should remain in the final Order on Consent and the DEP and/or City of New York should be required to them, they should be given no credit toward the civil penalties in the final Order on Consent for the cost of providing the funding or any assistance for these projects.

DEC Response to Comment 40. Prior to finalizing the Order, negotiations between DEC and NYCDEP included possible EBPs as part of the settlement. DEP may have publically indicated their commitment to the projects prior to DEC finalizing the Order, but any preliminary commitments under the draft Order on Consent were part of the overall settlement negotiations.

Comment 41. Increase the set-aside for development of a Lower Esopus Stream management Plan to \$600,000.

Comment 42. Increase the set-aside for Lower Esopus Stream Management Plan Implementation to \$3,500,000.

Comment 43. The dollar amount of required environmental benefits is inadequate.

DEC Response to Comments 41-43. The dollar amount increased from Nine Hundred Fifty Thousand Dollars (\$950,000) to the total sum of Two Million, Six Hundred and Forty Thousand Dollars (\$2,640,000) to perform EBPs.

Comment 44. In anticipation of long-term Ashokan Reservoir releases and the resulting sustained impacts to the Kingston Plaza Levee, an assessment, condition survey and all necessary repairs leading to the re-certification of the Kingston Plaza Levee is requested. This requirement should be included in Paragraph 3. (C) of Penalties and Environmental Benefit Projects.

Comment 45. The Kingston Plaza is protected by a levee from flood waters of the Esopus Creek. In September 2009, the levee was de-certified by FEMA and the Army Corps of Engineers. A stream gauge previously existed in the vicinity of the 1-587 Bridge over the Esopus Creek. Replacement of the stream gauge would support management of the levee infrastructure and mitigate future Ashokan releases and anticipated flooding conditions which may be exacerbated by post 2022 management of the Ashokan Reservoir.

Comment 46. The final Order should include assistance to landowners along the Lower Esopus Creek as long as the releases continue. In particular, the Catskill Stream Buffers Initiative should be made available to landowners to address such issues for landowners.

Comment 47. Add an Environmental Benefit Project of \$2,000,000 for the City to update the flood maps of Lower Esopus and model inundation under multiple scenarios including assuming a full reservoir and using the combined seasonal storage objective.

Comment 48. Add an Environmental Benefit Project of \$1,000,000 for mitigation of streambank erosion attributable to sustained high-flow releases. This is based on one stream restoration project and a robust riparian stabilization program.

Comment 49. Based on site visits conducted by DEP in December 2011 to confirm and categorize impacts of turbid water releases at various locations along the Esopus Creek, funding for restoration to stream banks, wetlands and recreational lands needs to be included in Paragraph 3.(C) of Penalties and Environmental Benefit Projects in order to make whole those impacted financially.

Comment 50. The Order should provide that the Stream Gauge and Technical Review Consultant efforts be funded, but not as ESPs since NYCDEP previously committed to undertake that will benefit the Creek and its communities.

Comment 51. Paragraphs B.3(c) should require that the City provide \$1,450,000 in Environmental Benefit Project funds to the New York State Environmental Facilities Corporation (EFC) within sixty (60) days of the effective date of the Consent Order. In addition, the Order provides too long a period of time (one year) from the City to enter into a contract with a fiduciary other than the EFG. The City should be given no longer than three months to enter into such a contract, particularly given that one of the EBPs, development of the stream management plan should be undertaken during the DEIS.

Comment 52. The final Order on Consent should not only address damages to the fishery, but should also include a requirement to address losses and damages associated with other recreational uses. The final Order on Consent should include funding to restore the Marbletown and Saugerties public beaches and provide additional funding to those municipalities for recreational access programs to mitigate the other negative effects of these releases.

Comment 53. Strongly supports the Consent Order provision for stream management activities in both the upper and Lower Esopus basins, which will improve stream function and reduce excessive erosion.

DEC Response to Comments 44-53. The Order includes an increase to the Environmental Benefit Projects (EBP) funding for Stream Management Plan Implementation from \$330,000 to \$2,000,000. This funding will be available to implement the final recommendations for other projects identified in the Stream Management Plan for the Lower Esopus Creek that DEC expects to be prioritized based on stakeholder input. Private claims are beyond the scope of this Order. The installation of a gauge to facilitate levy management is beyond the scope of this Order.

#### Upper Esopus Projects

Comment 54. The two turbidity reduction projects on the Upper Esopus should be identified through a public process and why were just two projects selected.

Comment 55. How will these two projects be selected?

Comment 56. The City should put more effort/money into remediating upstream sources of turbidity. Increase Upper Esopus Stream restoration from \$750,000 for two projects to \$5,000,000 for five stream restoration projects in the upper Esopus to reflect the typical cost of stream restoration projects in that area (average around \$1,000,000 per project).

DEC Response to Comment 54-56. The 2007 FAD placed great emphasis on the Catskill Turbidity Control program with an emphasis on the Ashokan Reservoir basin. The mid-term revisions to the 2007 FAD continue to place emphasis on the Catskill Turbidity Control program and requires 7 stream restoration projects be completed in the Ashokan Reservoir watershed. The Order requires two additional stream restoration projects above and beyond the FAD. The Stream Management Plan (SMP) for the Upper Esopus was developed through a public process where the County Soil and Water Conservation District' and other stakeholders were involved in development of the SMP and prioritization of projects. The Department will review the proposed projects to ensure they are consistent with the recommendations within the existing SMP for the Upper Esopus. Implementation of two projects is consistent with the level of effort the DEC anticipated NYCDEP would undertake to comply with Cat/Alum SPDES permit requirements.

## Lower Esopus Stream Management Plan

Comment 57. Ulster County and the impacted Towns should be allowed to participate in project selection. The projects should be carefully negotiated-publically-with local officials – and then the costs determined – not the other way around.

DEC Response to Comment 57. The development of the Lower Esopus Creek SMP which will include prioritized recommendations for activities will include involvement of interested stakeholders. Under the Order, the City is required to deliver to a fiduciary the funds for the Lower Esopus Stream Management Plan development and implementation projects. These funds will be used by the fiduciary in accordance with a separate memorandum of understanding to be entered between DEC and the fiduciary (the “MOU”). The MOU(s) shall provide that the funds shall be kept in separate interest-bearing account by the fiduciary and that: (a) the fiduciary must expend, or enter into binding commitments to expend, the EBP Funds in accordance with the timeframes set, and (b) DEC shall have the right to direct the fiduciary to pay any uncommitted funds remaining in account 5 years after the effective date of this Order either: (1) to an alternate not-for-profit organization selected by DEC, or (2) to DEC.

Comment 58. Paragraph 3. (C) of Penalties and Environmental Benefit Projects should include meetings between the City and the consultant selected by EFC to develop the Lower Esopus Creek Management Plan requires a quarterly schedule in order to ensure timely transfer of data and information.

DEC Response to Comment 58. The development of the Lower Esopus Creek SMP will include the involvement of interested stakeholders. The team involved in the development of the management plan is the appropriate entity to determine time frames associated with transfer of data and information. A fiduciary (not the City) will be overseeing the development of the Lower Esopus Management Plan. Under the Order, the City must participate if requested to do so.

### USGS Gauges

Comment 59. Recommend that a USGS Gauge be installed in the Lomontville area to provide additional stage/flow and quality data. A protocol should be developed for use of this gauge in conjunction with the Mount Marion Gauge and utilized to inform operation of the release channel.

Comment 60. Funding for all stream gauges needs to be provided for by the City of New York in perpetuity. The reservoir system has been in existence for over 100 years and is expected to remain in-place for at least another 100 years; therefore responsibility for the stream gauges should run concurrently.

Comment 61. Increase the set aside for stream gauges to \$1,000,000 for monitoring at the Mt. Marion and Lomontville gages for a minimum of 25 years. This increase reflects the fact that three of the Environmental Benefit Projects were already committed to by the City and thus cannot be construed as penalties.

DEC Response to Comments 59-61. The draft Order on Consent includes an EBP that requires DEP to provide funds to the USGS to add water quality monitoring capabilities to the existing Mount Marion gauge and install a new gauge at Lomontville. Once operational, it would be available to inform operation of the release channel.

### Fish Stocking

Comment 62. Ulster County Sportsmen have been stocking fish along with the New York State DEC and had a five-year wildlife program approximately ten years ago. We have been stocking fish every year, and we don't know what happened to these fish. So \$10,000 for fish rehabilitation is a mere factor of that cost. I'd like that issue addressed.

DEC Response to Comment 62. DEC believes that the fish population in this reach is supported by natural propagation and that \$10,000 worth of stocking is appropriate.

### Technical Review Consultant

Comment 63. The \$60,000 technical advice fee should also be increased and the fund directed to Ulster County so that the County can work cooperatively with affected communities.

Comment 64. Increase the set aside for technical consultant to \$100,000 to incorporate additional review requirements associated with a broader scope. (LEWP)

Comment 65. The County should be able to hire people with substantial technical capacity and be permitted to participate in any meeting with the DEP and DEC throughout the entire process.

DEC Response to Comments 63-65. The final Order increases the funding for the technical review consultant (TRC) to \$80,000. DEC expects the technical consultant will participate in the ongoing SEQRA process as identified in the Order.

Comment 66. The provision requiring the DEP and the City of New York to provide a technical review consultant to the ARWG should remain in the draft proposed Order on Consent, however funding for this consultant should be paid to and administered by an entity independent of the DEP and the City of New York.

Comment 67. Funding of the TRC required by the Order should be administered by an entity independent of the DEP and the City of New York, to whom DEP would pay the funds that it has committed to support the consultant.

DEC Response to Comment 66 and 67. The Order now requires certain EBP funds, including those for the TRC, to be allocated to one or more Fiduciaries selected by DEC to manage such funds.

Comment 68. The Technical Review Consultant (TRC) should not be included in the Consent Order as an environmental benefit project that receives penalty offset. Such an offset would contravene DEC's own EBP Policy.

DEC Response to Comment 68. The TRC funding is appropriate either in the project section or in the payable penalty section.

Comment 69. DEC should remove from the Consent Order all language with limits the ARWG's ability to use the Technical Review Consultants work. The following language should be deleted: [t]he ARWG MOU shall provide that no work produced by the TRC with funding provided by the City may be used in support of any litigation or administrative proceeding where DEP or the City of New York is a party without DEP's written consent, nor may funding by the City be used to pay the consultant for testifying or preparing any of the stakeholder parties for testifying in connection with any such litigation or administrative proceeding.

Comment 70. The amount of funding to support a technical review consultant is inadequate and the requirement in the draft Order that a Memorandum of Agreement be entered into by the DEP and the AWRG and that it contain a condition that no work produced by the consultant may be used in support of any litigation or administrative proceeding where the DEP or the City of New York is a party without the written consent of DEP is an abuse of the legal system and the public policies surrounding this issue.

Comment 71. The Consent Order states that DEP will only fund the environmental impact statement if local communities give up their rights to utilize the information gathered in the environmental impact study to take legal action against DEP. DEP should not be allowed to do a technical review of the EIS. This needs to be done by an independent objective third party. There should be no limitations on the use of the Environmental Impact Statement work product.)

DEC Response to Comment 69-71. The conditions included in the draft Order on Consent relating to litigation support are unchanged in the final Order.

#### Ashokan Release Working Group

Comment 72. The Consent Order should require the creation of an on-going advisory body that will inform decision-making about the management of the Lower Esopus Creek into the future.

Comment 73. The Consent Order should order the finalization of a stakeholder advisory body (i.e., the Ashokan Release Working Group (ARWG)).

DEC Response to Comment 72-73. The ARWG mission is neither well defined nor immutable. It would be inappropriate to include a requirement in the Order that may have no connection to the issues addressed by the Order. The Order contains a whereas clause indicating that the City will continue to participate in the Ashokan Release Working Group on matters related to the operation of the Ashokan Release Channel related to this Order, for so long as that Working Group continues to exist, until and unless the Cat/Alum SPDES permit is modified pursuant to this Compliance Schedule.

Comment 74. The Consent Order must authorize the ARWG to collectively petition the City to stop or reduce discharges perceived by the majority of the non-City ARWG representatives to be negatively impacting downstream conditions.

Comment 75. The Order severely limits the role of the ARWG and the public in determining appropriate interim strategies and in assisting with the development of a long-term solution.

Comment 76. DEC should add the following sentence at the end of the paragraph A.ii to provide for ARWG's involvement: "DEC and the City shall solicit recommendation from the ARWG regarding modifications to any interim or final Ashokan Reservoir release strategy, and give serious consideration to such recommendations".

Comment 77. DEC should move paragraph 26, which outlines the City's future participating with the ARWG, to the So Ordered Section as a new Paragraph. It should state that the ARWG will continue to exist and be afforded an active advisory role in the decision-making regarding reservoir operations as they may impact the Upper and Lower Esopus Creek and watershed, both during the SEQRA review and SPDES permitting processes and after those processes have been completed. The City should be required to continue its participation in the ARWG in good faith so long as its reservoir operations are impacting the stakeholders along the Lower Esopus Creek.

Comment 78. The language in Paragraph 26, moved to the So Ordered Section, should be revised to provide: "The ARWG shall be maintained or some similar advisory body shall be established to continue to actively engage in providing advice and support to decision-makers regarding Ashokan Reservoir operations after completion of the SEQRA process and after whatever permitting actions may be taken based on its findings, going forward into the future. The City shall continue to participate in good faith with the ARWG, or whatever advisory body may be established to succeed the ARWG, meeting at regular intervals to discuss emerging and ongoing conditions as long as reservoir operations continue to impact the stakeholders and communities along the Lower Esopus Creek.

Comment 79. Paragraph 2 of Section VI should include the following: "the City shall provide to DEC and ARWG stakeholders a draft scope for an Environmental Impact Statement (EIS) comprehensively assessing the potential impacts.

Comment 80. Paragraph 5 should be revised to provide: "As part of the development of the DEIS, if the City proposes to continue release through the Release Channel, it, along with DEC and the ARWG, shall evaluate the City's proposed release strategy. In the same paragraph, DEC should give ARWG the opportunity to give input on any final release strategy by including the following sentence: "The City and DEC shall meet with ARWG to consult with and consider recommendations from the Working Group regarding any release strategy which the DEP proposed to include in the DEIS."

Comment 81. Paragraph 8 should be revised to provide for consultation with the ARWG with respect to any release strategy which DEP proposes to include in a revised application to modify the Cat/Alum SPDES permit and should include the following: "The City and DEC shall meet with ARWG to consult with and consider recommendations from the ARWG

regarding any release strategy with the DEP proposes to include in a revised application to modify the Cat/Alum SPDES permit.”

DEC Response to Comments 74-81. Under the Order, the City is required to submit to DEC a draft scope for an EIS comprehensively assessing the potential impacts (biological, chemical, physical, and economic) from the City’s proposed modifications to the Cat/Alum SPDES permit including, but not limited to, releases from the Release Channel to the Lower Esopus Creek in accordance with the Interim Protocol - within 60 days after the Order was signed by the DEC Commissioner on October 4, 2013. DEC will issue a draft scoping document for public review in accordance with time frames established in SEQR regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS such as the ones provided here, in preparation of a final scope that the applicant will be required to use to prepare the DEIS. The public will have another opportunity to comment on releases when DEC issues a draft EIS.

### **Fines/Penalties**

Comment 82. The DEC’s choice to levy a fine of \$1.5 million and suspend 1/3 of that is arbitrary and capricious.

Comment 83. The DEC should partner with Ulster County’s communities and residents utilizing a more substantial fine to the DEP to implement true flood control and mitigation measure.

Comment 84. The civil penalty of \$1.5 million in the Draft Consent Order is woefully inadequate as to the amount and purpose, as it does not address, compensate for or provide for the damages forced upon the environment, the residents of Ulster County, the private and public properties in Ulster county, the recreational resources in Ulster County, and the economy of Ulster County by the NYCDEP, and further permits the NYCDEP to receive a “refundable deposit” of one third of that amount as a suspend penalty.

Comment 85. The fine appears to be little more than the “cost of doing business” and not a meaningful fine which deters future improper actions by the City of New York against the watershed area residents.

Comment 86. The civil penalties in the final Order on Consent should be no less than Ten Million Dollars (\$10,000,000) and be used to finance environmental benefit projects and damage claims of property owners, both public and private.

Comment 87. The \$1.5 million fine against DEP is inadequate.

Comment 88. The Lower Esopus Creek and its communities should not be asked to subsidize the cost of water for the City users. Although we appreciate the enormous costs associated with upgrading such a complicated an aging system, New York City water rates are very low compared to the cost of water in other NYS municipalities, and this should be taken into consideration.



Comment 89. The Order assesses insufficient financial penalties, which contain offsets that contradict DEC policy and provide little or no benefit to the communities along the Lower Esopus Creek.

DEC Response to Comments 82-89. The dollar amount of the penalties increased from \$950,000 in the draft Order on Consent to \$2,640,000 in the Order. The penalties and obligations contained in the Order are consistent with the Department's Civil Penalty and EBP policies and are commensurate with and address the violations contained in the Order. The Order includes an increase in funding for the EBP associated with implementation of the Lower Esopus Creek Stream Management Plan and an increase in funding for the Technical Review Consultant ) to assist ARWG in participating in the public process under the SEQRA.

#### Schedule of Compliance Comments

Comment 90. Schedule of Compliance Section VI, Footnote 1 confuses the intended role of the agencies and should be deleted to make it clear in the Consent Order that DEC will be lead agency in the SEQRA process.

DEC Response to Comment 90. The footnote referred to in the comment has been updated to clarify the roles of the agencies. DEC has started the process under SEQRA to assume the lead agency role.

Comment 91. Consent Order Schedule of Compliance Section VI, Paragraph 3 should be modified as follows to make the scoping process of SEQRA and Rules of the City of New York (RCNY) mandatory and enforceable: "DEC will issue the draft scoping document for public input on the draft scope through the use of meetings and solicitation of public comments. The City shall include in the final scope all of the elements required by 6 NYCRR Section 617.8(1) and 62 RCNY Section 5-07(e)."

DEC Response to Comment 91. The Order been revised to clarify that it requires compliance with the SEQRA process. In addition, the compliance schedule includes requirements for compliance with RCNY.

Comment 92. Schedule of Compliance Section VI, Paragraph 4 should reflect the changes made to Paragraph 2 to ensure that the SEQRA process reviews all reasonable alternatives for turbidity reduction. Paragraph 4 of the Order should require that the DEIS alternatives analysis re-visit and re-evaluate the alternatives considered in the Catskill Turbidity Phase III Value Engineering Study dated January 2008 that focus on structural measures that could significantly reduce the need for and/or improve the quality of releases to the Lower Esopus, alternatives that were eliminated from consideration in DEP's subsequent Turbidity Control Alternatives Analysis dated February 28, 2011.

Comment 93. Revise Consent Order language (p7 of 32, A.ii and p20 of 32, Appendix A, IV.) to include other potential structural alternatives than the Upper Gate Chamber crane repair and the Interim Protocol.

Comment 94.The EIS (p20 of 32, Appendix A, VI.2.) scope must require a full exploration of other structural alternatives and document the anticipated percentage of Alum reduction provided by each alternative. It must also require a full cost/benefit analysis of all reasonable alternatives, including continued Alum use. (LEWP)

DEC Response to Comments 92-94. The Department specifically identified the crane repairs in the Order on Consent as there were existing cranes that were not functional at the time the Order on Consent was being developed. The repair of the cranes was important as the cranes enable the selection of the depth of water withdrawal from the reservoir and therefore allows for the best available water to be released through the release channel. Moving forward, a full SEQRA review and consideration of all reasonable alternatives is required.

Comment 95. Supports provisions in the draft consent order that require a new round of alternatives analysis, however recommends that Section VI 4 be strengthened to include a reopening of New York City's engineering analysis, conducted under Phase III of the Catskill Turbidity Control Study, to include this new round of structural and engineering alternatives.

DEC Response to Comments 95: The Order has been revised to clarify that it requires evaluation of all reasonable alternatives in accordance with Part 617.

Comment 96. The "no action alternative" contained in Schedule of Compliance Section VI, Paragraph 4 is misleading since the City has already taken action to release 600 mgd of turbid water into the Lower Esopus. To clarify, this alternative should be renamed and Riverkeeper suggests the language in Paragraph 4(b) be replaced with the following: "The DEIS will include an analysis of alternatives of operating the Catskill Water Supply System (including a comparative analysis of the potential adverse and beneficial impacts for each alternative) in the following categories: (1) no action alternative, which is operation of the Release Channel in accordance with the October 2011 IRP; (2) continued Alum use at the Catskill Aqueduct Alum Plant; reasonable alternatives for operation of the Ashokan Reservoir, including but not limited to all alternatives considered in the Catskill Turbidity Phase III Value Engineering Study dated January 2008 that could significantly reduce the need for an/or improve the quality of releases to the Lower Esopus; (3) revising the Conditional Seasonal Storage Objective; flocculation treatment upstream from the Ashokan Reservoir; (4) options to discharge water from the Catskill Aqueduct prior to it reaching the Kensico Reservoir; (4) a bypass or pipe diverting water from the Upper Esopus directly into the Lower Esopus Creek; (5) a similar diversion to carry low-turbidity water directly to the East Basin; (6) increasing capacity of the Ashokan Reservoir; (7) reasonable alternatives for operation of the Catskill Aqueduct, including, but not limited to, options to use a flocculent at some other point in the Catskill Aqueduct prior to the Kensico Reservoir, options to discharge water from the Catskill Aqueduct prior to reaching the Kensico Reservoir; and (8) reasonable alternatives for operation of the Kensico Reservoir.

DEC Response to Comments 96. Alternatives to be considered for study will be developed as part of the scoping process for the EIS.

Comment 97. Schedule of Compliance Section VI, Paragraph 4(c) should be modified to accurately state the SEQRA requirement of 6 NYCRR Section 617.1 I (d) (5), upon which that paragraph is based and include “where the potentially significant adverse impacts are identified, the DEIS shall, to the maximum extent possible, include measures that have the potential to avoid, mitigate, or minimize these impacts. A summary of these findings and a timeframe for implementation, if available, will be presented. Where impacts cannot be mitigated, they will be identified as unavoidable, significant adverse impacts.

DEC Response to Comment 97: NYCRR 617.11 (d) says:

(d) Findings must:

(1) consider the relevant environmental impacts, facts and conclusions disclosed in the final EIS;

(2) weigh and balance relevant environmental impacts with social, economic and other considerations;

(3) provide a rationale for the agency’s decision;

(4) certify that the requirements of this Part have been met;

(5) certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.

Paragraph c has been deleted from the final order, instead relying on the paragraph requiring compliance with SEQRA.

Comment 98. Recommends that a schedule for the Shaft 4 connection be included in the Consent Order. Inclusion of this milestone in the consent order would complement the Filtration Avoidance Determination and would enhance the enforceability of this project schedule.

Comment 99. The Consent Order indicates the DEP is committed to certain capital improvements in paragraph 21 but also admits the DEC has no power to enforce that commitment.

Comment 100. The So Ordered Paragraph B.2 should be modified to guarantee performance through the requirement of a bond or through stipulated penalties. The Order should instead require the City to pay the \$500,000 intended for the escrow account to perform additional environmental benefit projects.

DEC Response to Comment 98-100. Paragraph 21 indicates the NYCDEP is committed to capital improvements to ensure system reliability. These improvements are not something that DEC is authorized to enforce under the Cat/Alum SPDES permit or the City's water supply permit. This Order does require the City, beginning in February of 2014, to provide annual progress reports on their infrastructure projects including the Shaft 4 connection as the schedule for these projects directly affects the schedule for dredging of the Alum from the Kensico Reservoir which is required by the final Order. The final Order increased the amount of money to be spent in EBPs and eliminated the escrow account.

#### Individual Landowners

Comment 101. The Draft Consent Order does not provide relief to individual landowners, both public and private, along the Lower Esopus Creek.

Comment 102. The final Order on Consent should set aside a pool of funds to be provided for by the City of New York and/or the DEP that adequately addresses the monetary damages incurred by property owners to fully compensate them for the damages they have suffered.

Comment 103. The final Order on Consent should require the City of New York and/or the DEP to actively outreach to all property owners abutting the Lower Esopus Creek and/or are adjacent or near the Lower Esopus Creek and/or who may have filed claims for the purpose of assessing their property damage.

Comment 104. The final Order on Consent should require the City of New York and/or DEP to review and respond in a timely manner to any and all claims made or to be made by property owners.

Comment 105. The final Order on Consent should fashion a specific procedure and schedule that will require the City of New York and/or the DEP to make direct payment to those property owners for their damage claims. A team of county municipal representatives and DEP visited over 60 properties; owners who believed they had sustained damages because of the releases were told by DEP to file claims with the City of New York Comptroller, and subsequently all those claims were denied.

Comment 106. Add an Environmental Benefit Project of \$5,000,000 for a buy-out program of repetitively flooded properties.

Comment 107. There should be a section which addresses both the repairs and buyouts for all homeowners who are flooded out of their homes due to the Ashokan not having enough of a void to handle rains and snow melts. The buyouts should be based on homes values before the 2005 flood.

DEC Response to Comments 101-107. Compensation directly to private landowners is not within the scope of this Order. However, private landowners of the Lower Esopus community will receive a benefit derived from the Order's requirement for the City to pay two hundred thousand dollars (\$200,000) to develop a stream management plan for the Lower Esopus Creek and to pay two million dollars (\$2,000,000) to implement the stream management measures identified in the plan for the Lower Esopus Creek.

## **6 NYCRR Part 672**

Comment 108. The Consent Order should require the City to continue Community releases under its Article 15 authority and require the City to obtain a permit for discharges of turbid water from the Waste Channel. DEC should require ongoing Community releases by including them directly in the Consent Order, and removing them from the IRP, by adding two paragraphs to Section IV of the Schedule of Compliance: “In order to provide environmental, recreational and economic benefits to the Lower Esopus Creek, the City will make releases from the Ashokan Reservoir through the Waste Channel at the rates prescribed by DEC in Appendix C of this Order until those releases are required pursuant to a DEC-initiated modification of Part 672-2.3.” Riverkeeper also recommends that the minimum Community Release flow rates initially be set forth in a new Appendix C of the Consent Order.

Comment 109. DEC should promptly meet its regulatory obligations under Part 672 to ensure that releases from the Ashokan meet constant minimum flow requirements and avoid adverse environmental impacts including, but not limited to, water quality degradation.

Comment 110. To the very limited extent that DEP has said that non-flood mitigation, Operational releases would be necessary, DEC has the authority under the Reservoir Release Regulations to require, and should require, that DEP request authorization for such releases on a case-by-case basis and should ensure that those releases comply with New York State law and regulations, including New York State water quality standards. See 6 NYCRR Section 672-1.3(e).

Comment 111. The DEP and City of New York should acknowledge in the final Order on Consent that the Ashokan Release Channel constitutes an operating release works under 6 NYCRR Part 672-2.3 and will not object or oppose DEC modification of Part 672 in order to authorize Community releases from the Ashokan Reservoir and DEC deems necessary pursuant to its authority under 6 NYCRR Part 672-2.3.

Comment 112. “Community Releases” must be finalized in NYSDEC Division of Water, Part 672: Reservoir Releases Regulations. The Consent Order must stipulate that the City agrees to revisions to Part 672 based on the existence of release works. DEC and the City should state their intent to support revisions to DEC Division of Water Regulations to reflect the existence of release works.

Comment 113. The Consent Order should further require the City to acknowledge that the Ashokan Release Channel constitutes an operating release works under 6 NYCRR part 672-2.3 and to agree not to object to or oppose DEC modification of Part 672 to authorize Community releases from the Ashokan Reservoir as DEC deems necessary to implement New York’s policy to protect and enhance recreational use of rivers and streams affected by reservoir releases while ensuring an adequate water supply from such reservoir for drinking and other purposes.

DEC Response to Comments 108-113. DEC has not, at this time, determined that it is necessary to modify Part 672. The conditions for Operational releases minimize negative

water quality impacts to the Lower Esopus Creek and are anticipated to only be utilized less than 3 % of the time. Part 672 states: 'Required releases from such reservoirs may be established at some future date, following completion of the department's studies pursuant to section 672-1.4 (b) of this Part and upon construction of proper release works.' Part 672 does not create regulatory obligations for the DEC, rather authorizes the DEC to establish required releases.

## **General**

Comment 114. The draft scope (for the environmental impact study associated with the SPDES permit) should start to be developed and not wait until the consent order is signed.

DEC Response to Comment 114. As the comment suggests, scope development was ongoing prior to execution of the Order on Consent.

Comment 115. An updated flood study needs to be conducted. The current flood study is outdated and based on data that does not represent the current conditions.

DEC Response to Comment 115. An updated flood study is beyond the scope of this Order.

Comment 116. The Towns should be able to direct DEP work crews to go into the Esopus to clean it out or make repairs when directed to do so by the various Town Boards at no cost to those Towns.

DEC Response to Comment 116. The allowance for one municipality to direct the activities of another municipality is beyond the scope of this Order.

Comment 117. Consent Order should acknowledge the existence of a draft Lower Esopus Preliminary Management Plan to be incorporated into the Lower Esopus Stream Management Plan.

DEC Response to Comment 117. The Lower Esopus Stream Management Plan will draw upon numerous available, existing resources when it is developed. It is not practicable for all of the existing resources to be used for plan development to be included in the order.

Comment 118. More actual data should be incorporated into the Operational Support Tool (OST) model, and allow refinement of flood height predictions. Model predictions should coincide with predicted flood heights on the flood maps.

Comment 119. Additional OST modeling should be conducted using more recent meteorological data to reflect the increase in storm intensity observed in recent decades.

DEC Response to Comments 118 and 119. The OST uses actual near-real-time data from multiple sources as well as the observed historical data since 1928 to characterize the status of the NYC Reservoir System and guide decisions to maintain public water supply reliability. These near-real-time data sources include:

- Reservoir elevation, watershed snowpack, and watershed water quality data from NYCDEP sensors

- Streamflow data from USGS gages in the watershed
- Weather forecast data from the National Weather Service (upgraded in collaboration with NYCDEP)

The OST is not a flood forecasting tool, but it has been used to identify times of year when lower reservoir levels can be targeted with minimal risk to public water supply. Lower reservoir levels can be expected to have a beneficial effect on downstream peak river stages for some (not all) major storm events.

Flood forecasting on the Esopus Creek is performed by the Northeast River Forecast Center, an office of the National Weather Service. They incorporate NYCDEP reservoir data, USGS streamflow data, and NWS weather forecast data into their model to project future river stages for the Lower Esopus Creek.

The impact of climate change may be one of the impacts analyzed in the SEQRA process.

Comment 120. Depth-integrated grab samples should be collected at select locations downstream from the reservoir to Lake Katrine (the portion of the Lower Esopus before major tributaries of the Sawkill and the Plattekill) during normal flows, reservoir releases and storm events. Data on channel morphology should be collected through the Kingston area and consideration should be given to using the Sawkill watershed (a major tributary of the Lower Esopus) as a reference for sediment loading.

Comment 121. Biological monitoring should be conducted to evaluate the impact of different release regimes on aquatic and riparian ecosystems.

Comment 122. Findings should be synthesized through integrative study and analysis of the gage and sediment data with additional data (such as species' turbidity tolerances) to provide recommendations on the best timing, duration, and water quality requirements of the releases. Recommendations should be tied to the ecosystem needs and the social uses of the Lower Esopus.

DEC Response to Comments 120-122. Under SEQRA, a draft scope for an EIS comprehensively assessing the potential impacts (biological, chemical, physical, and economic) from the City's proposed modifications to the Cat/Alum SPDES permit including, but not limited to, releases from the Release Channel to the Lower Esopus Creek in accordance with the Interim Protocol will be provided by the City to DEC within 60 days after the Order was signed by the DEC Commissioner on October 4, 2013. DEC will issue a draft scoping document for public review in accordance with time frames established in SEQR regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS such as the ones provided here, in preparation of a final scope that the applicant will be required to use to prepare the DEIS.

## **Public Input**

Comment 123. The Consent Order does not provide for concurrence or input by the County of Ulster or its specifically impacts Towns, to determine whether additional resources are necessary for reservoir rebalancing, for refill of the Ashokan Reservoir, or for proper water supply management.

DEC Response to Comment 123. Reservoir operation management is best performed by the system managers (NYCDEP). Where NYCDEP believes a variance is necessary related to provisions as outlined in the IRP, requirements for DEC concurrence are included in the order as an assurance of balanced protections for all competing interests. The Order has been revised to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders.

Comment 124. Ulster County has never been afforded the courtesy of participating in the settlement negotiations between the DEP and DEC even though the decision(s) contained in the Draft Order on Consent directly affect us.

DEC Response to Comment 124. DEC has provided a draft Order on Consent for public review and has carefully considered all comments, including Ulster County's comments. The Order has been modified in response to comments.

Comment 125. The final Order on Consent should provide that hard and electronic copies of any and all documents provided to the DEC related to the Order on Consent and the FAD be provided to the County of Ulster for public dissemination within five (5) business days of receipt by DEC. Documents should also be placed publically on the Internet with substantive and regular updates which allow the public meaningful opportunity to review the document.

DEC Response to Comment 125 The Order requires that electronic copies of technical submittals required under the Order will be distributed to Ulster County and the Ashokan Release Working Group.

FAD related reports are available from the NYCDEP website at:  
[http://www.nyc.gov/html/dep/html/watershed\\_protection/fad.shtml](http://www.nyc.gov/html/dep/html/watershed_protection/fad.shtml).

Comment 126. There needs to be much improved transparency through the current environmental review process. The EMC requests that all the documents associated with the regulatory decision making which led to the reestablishment of the Release Channel be made readily accessible to the public through a document clearinghouse.

DEC Response to Comment 126. Both the draft scoping document and draft EIS will undertake a formal public notice and comment process pursuant to SEQRA. DEC will issue a draft scoping document for public review in accordance with time frames established in SEQR regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS in preparation of a final scope that the applicant will be required to use to prepare the DEIS.



## **Interim Release Protocol –**

Comment 127. The Town of New Windsor strongly supports the implementation of the Interim Ashokan Reservoir Protocol as a vital component in the overall DEP/DEC strategy to protect the interests of all upstate communities affected by the management of the Ashokan Reservoir.

DEC Response to Comment 127. Comment noted.

Comment 128. DEC should not put the interim release protocol into the Order on Consent.

Comment 129. The Interim Release Protocol, with the exception of the Conservation Releases, should be separated from the Draft Consent Order as it removes it from the State Environmental Quality Review Act (SEQRA) process and permits turbid releases which exceed New York State Water Quality Standards by creating a visual contrast.

DEC Response to Comments 128-129. The Interim Revised Protocol (IRP) was developed to enhance benefits to the community by providing on-going conservation releases, improve flood attenuation, and provide better drinking water quality. The Order has been modified to provide for input from stakeholders prior to modifications of the IRP. The Order includes a comprehensive, enforceable IRP as well as a requirement that NYCDEP submit an application to modify the existing SPDES permit for the Catskill Aqueduct Influent Chamber to incorporate measures that will be determined after environmental review. This permit modification review is subject to all requirements for environmental review in accordance with the SEQRA process. Further, the Order has been clarified in several places to refer to rather than paraphrase the SEQRA regulatory requirements. The enforceable IRP is included to provide assurances related to Conservation, Spill mitigation, and Operational releases until the environmental review process is completed. The Cat/Alum SPDES Permit will be modified upon completion of the environmental review and required permitting process.

Comment 131. Appendix A. VI. 5. Future monitoring should not be at the City's discretion. If turbidity releases are conducted, monitoring must be conducted.

DEC Response to Comment 131. The IRP as required by the Order requires water quality monitoring at various locations when releases from the Ashokan Release Channel are being made.

Comment 132. Introductory language in the Interim Release Protocol should be revised to make it clear that: "Such Protocol is interim as it may be revised as a result of monitoring and other lessons learned during its implementation, further discussions conducted between DEP and DEC, with input from the stakeholder members of the ARWG, and will be replaced by a date certain by a SPDES permit for any discharges from the Ashokan Release Channel after a full environmental review in compliance with the requirements of SEQRA."

DEC Response to Comment 132. The Order has been revised to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of

monitoring and other lessons learned during its implementation, with input from the stakeholders.

Comment 133. The Consent Order gives only the City explicit authority to initiate a change to the IRP, and strips the public of the ability to provide input on such changes. If DEC chooses to keep the IRP in the Order in some form, it should retain sole authority to modify or discontinue it, and it should provide for public input. Paragraph A.ii should be revised as follows: “The City and members of the public may request specific modifications to Appendix B, in writing, from time to time. DEC shall respond in writing and retains sole authority to modify the IRP.

DEC Response to Comment 133. The Order has been modified to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders.

Comment 134. The Consent Order should require DEP to obtain coverage for any high volume, turbid Lower Esopus discharges under a SPDES permit which provides that they comply with specific effluent limitations that ensure that those discharges do not violate state water quality standards.

Comment 135. The Consent Order should order that discharges to the Lower Esopus comply with specified effluent limitations to ensure that discharges will not violate water quality standards (negatively impact downstream water quality).

Comment 136. Recommends that the proposed environmental review contain the necessary information about the Lower Esopus Creek to inform future regulatory decisions and assist NYSDEC in ensuring attainment of water quality standards in accordance with the Clean Water Act.

Comment 137. To ensure that continued Waste Channel discharges will comply with New York water quality standards, DEC should add the following paragraph at the end of the Consent Order Schedule of Compliance Section IV: “If the proposed modification of the Cat/Alum SPDES Permit includes provisions to address the City’s discharges from the Ashokan Release Channel to the Little Beaverkill and the Lower Esopus Creek, the provisions must require the discharges meet state water quality standards by complying with identified effluent limitations. Such a permit modification shall be approved within a reasonable period of time after the FEIS is completed. Upon approval of the permit modification, the interim Ashokan Reservoir Release Strategy applicable pursuant to the provisions of this order shall terminate.” In addition, DEC should delete from the Order and its appendices any language that is inconsistent with the above provision.

DEC Response to Comments 134-137. DEC has determined that this Order represents the appropriate legal mechanism for addressing these issues. The Order requires the City to follow the SEQRA process in evaluating the potential significant adverse impacts of the IRP and of reasonable alternatives for operation of the Release Channel and Catskill Aqueduct. A modified Cat/Alum permit will be based upon that environmental review.

Comment 138. The Order virtually guarantees that continued Waste Channel releases currently authorized by the Interim Release Protocol will be incorporated into a modified Cat/Alum State Pollutant Discharge Elimination System (SPDES) Permit, with no required effluent limitations.

Comment 139. Paragraph A.ii requires the City to abide by the “Interim Protocol” until the “City submits, and DEC approves a Revised Ashokan Reservoir Release Protocol (Operating Protocol).” Again, this paragraph dictates the outcome of the SEQRA process, defaulting on Waste Channel releases as the preferred method of turbidity reduction in the Catskill System before completing the EIS process. Any reference to the Order requiring a Revised Ashokan Reservoir Release Protocol or Revised Operating Protocol should be deleted.

DEC Response to Comments 138 and 139. The Order has been revised to refer to rather than paraphrase the SEQRA regulatory requirements. There are no guarantees of what will be included in the Cat/Alum permit - in addition to DEC’s internal process for drafting any changes to the permit, there is also a public review process for permit modifications that may influence issued permit conditions.

Comment 140. The City has failed to comply with DEC’s 2009 letter requirement (p 4 Whereas 16.) to “provide detailed information about the duration, frequency, volume, timing and temperature considerations, and potential impacts to biota, residents, and property”, the Consent Order presumes that Lower Esopus releases via the IRP constitutes one of the two primary turbidity control measures.

DEC Response to Comment 140: The Order has been developed to address previous violations of the Cat/Alum SPDES permit, some of which were identified in DEC’s July 2009 letter as noted in the comment. The Order does not presume that releases under the IRP constitute a primary turbidity control measure. The IRP was developed to enhance benefits to the community by providing on-going conservation releases, improve flood attenuation, and provide better drinking water quality.

Comment 141. The Structural Measures regarding the repair of the crane on the Ashokan Upper Gate Chamber have no bearing on the elimination of Alum use and should stand on its own as part of the repairs needed to meet the conditions of the Interim Release Protocol and reduce the short term environmental impact to the Lower Esopus.

DEC Response to Comment 141. DEP has completed repairs of the crane which now facilitates releases from the elevation with the least turbidity.

Comment 142. It should also be clarified whether the interim protocol is based on more recent weather forecasting (i.e., the past decade, rather than some longer period of time).

Comment 143. The Interim Release Protocol should be predicated on science based criteria, a review of the Consent Order appears to pick numbers out of a hat with a handful of dollars tossed as a goodwill gesture.

DEC Response to Comments 142 and 143. The IRP is based on scientific studies of the aquatic habitat of Esopus Creek which were utilized to establish the requirements in the

Shandaken Tunnel SPDES permit, the research and analysis upon which the operational support tool (OST) is based, as well as experiences gained in releases from the Delaware System. The OST also uses enhanced customized forecasts from the National Weather Service. The Spill Mitigation Protocol prescribes a release rate that will release the projected surplus storage over a 7 day period. This is intended to reduce the reservoir storage level to the CSSO in a period that is suitably short to minimize the time spent with voids less than those targeted by the CSSO curve.

Comment 144. Define turbidity threshold criteria in Interim Release Protocol prior to signing Consent Order. Assert City's intent to blend East Basin water, release only East Basin water, and/or reduce or halt releases when turbidity thresholds are exceeded. Brief, intermediate periods of flushing between bouts of highly turbid releases is not science-based or anecdotally referenced as an effective countermeasure to negative effects of long-term releases at high turbidities.

DEC Response to Comment 144. The allowed turbidity of Spill Mitigation releases has been revised for the final Order. The long-term effects of the Release Channel will be evaluated as part of the ongoing studies prescribed in the Order and SEQRA process. The current protocol was developed using existing studies that reflect the best information available at this time.

Comment 145. The Draft Consent Order does not guarantee that impacts along the Lower Esopus will cease; and it should guarantee that any operations of the Ashokan Reservoir by NYCDEP shall not cause nor increase the risk of flooding in the Lower Esopus Creek, and further guarantee that the NYCDEP shall make low flow Conservation releases to the Esopus Creek.

DEC Response to Comment 145. The Order provides assurances that low flow Conservation releases will be made, except in periods of drought emergency, through the incorporation of the Community Releases.

The negative impacts of flooding can never be fully eliminated. The amount of flood damage is storm-specific and dependent on a large number of factors. The Spill Mitigation releases are intended to provide a void in the reservoir whenever possible without reducing the essential availability of water for public water supply. These reservoir voids will generally reduce the impact of downstream flooding, in addition to the flood attenuation that is provided by the reservoir even if it is full or surcharged. The Spill Mitigation releases prescribed in the Order are throttled during periods of high flow to ensure that they do not exacerbate downstream flooding.

It is also important to recognize the flood reduction benefit provided by the Ashokan Reservoir for Tropical Storm Irene. At the time of Irene's arrival on August 27, 2011, the Ashokan Reservoir was filled to approximately 94% of its storage capability (6% void). The observed peak streamflow in the Esopus Creek at Coldbrook, upstream of the reservoir, was a new record high of 75,800 cubic feet per second (cfs), 16% higher than the previously recorded high of 65,300 cfs. The combination of the reservoir void and the peak attenuation characteristic to all reservoirs significantly reduced the downstream peak streamflow. The peak streamflow observed in the Esopus Creek at Mount Marion was 25,200 cfs, less than

1/3 of the peak observed upstream of the Reservoir. USGS prepared information on the historical flood peaks and peaks during the flood of August 28 and 29, 2011, at selected USGS stream gages in New York. That information indicates that the recurrence interval for the USGS stream gage at the Esopus Creek at Allaben above the Ashokan Reservoir was greater than 100 years and less than 500 years. However, due to the void in the Ashokan Reservoir the recurrence interval for the USGS stream gage at the Esopus Creek at Mt. Marion below the Ashokan Reservoir was 80 years. As such, the Ashokan Reservoir was able to provide a significant flood mitigation benefit in the Lower Esopus Creek.

The Order requires the City to identify and evaluate the potential significant adverse environmental impacts associated with a modification of the Cat/Alum SPDES permit by undertaking an environmental review, performed in accordance with the State Environmental Quality Review Act (SEQRA) analyzing alternative methods of operating the Catskill Water Supply System (including a comparative analysis of the potential adverse and beneficial impacts for each alternative) in the following categories: No-Action Alternative (no permit modification); reasonable alternatives for operation of the Ashokan Reservoir including but not limited to operation of the Release Channel in accordance with the IRP and any future amendments of it; reasonable alternatives for operation of the Catskill Aqueduct including but not limited to options to discharge water from the Catskill Aqueduct prior to its reaching the Kensico Reservoir; and reasonable alternatives for operation of the Kensico Reservoir. The SEQRA review required under this Order and by the Cat/Alum SPDES permit modification request is the proper forum for consideration of the environmental, recreation and economic benefits and impacts to the Lower Esopus, recognizing that NYCDEP operates the Ashokan Reservoir primarily for purposes of public water supply.

Comment 146. There should be a plan to deal with release and spill management post 2022 when the capital projects are completed and storage within the Ashokan system is insufficient to contain the turbid waters impounded.

DEC Response to Comment 146. DEC has not yet determined what mechanism will be used to monitor and regulate releases from the reservoir in 2022.

Comment 147. The Interim Release Protocol needs to establish definable objectives and outcome measurements for Community releases and flood mitigation and turbidity reduction releases, to better enable an evaluation of success. For example, what is the on-the-ground change that stakeholders would see from flood mitigation releases? How does the City measure the success of their turbidity reduction program?

DEC Response to Comment 147. The objective of the Spill Mitigation releases is maintaining the reservoir elevation at the level defined in the Combined Seasonal Storage Objective (CSSO). The desired outcome of this objective is the reduction of flood impacts observed by downstream stakeholders.

The objective of the Community releases is to provide environmental, recreational, and economic benefits to the Lower Esopus Creek. The desired outcome of this objective is to improve the overall ecological and social experience for downstream stakeholders.

The objective of Operational releases is to continue to protect the water supply of the City of New York. The desired outcome of this objective is to further ensure clean water to 9 million consumers.

The Order requires the City to follow the SEQRA process in evaluating the potential significant adverse impacts of the IRP and of reasonable alternatives for operation of the Release Channel and Catskill Aqueduct.

Comment 148. Change in discharge rate is too abrupt between CSSO and Community releases. The Interim Release Protocol should provide a gradual transition between Community releases and CSSO within plus/minus 2% of target goals.

DEC Response to Comment 148. The Department believes the ramping rate requirements included in the draft order are appropriate. The Order has been revised to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders.

Comment 149. Assert City's intent to draw drinking water from the west basin when water quality meets reservoir delivery requirements, e.g., when west basin turbidity is below 5 NTU.

DEC Response to Comment 149. For the most part this reflects current Ashokan operations, but this is a reservoir operation management detail that is best performed by the system managers (NYCDEP) and is not appropriate for this Order.

Comment 150. Assert City's intent to make releases of the best quality water possible to the Lower Esopus.

DEC Response to Comment 150. The Order required repairs to NYCDEP facilities to improve the capability of selecting the best quality water and these repairs have been completed.

Comment 151. Restate Monitoring Objective, i.e., "To monitor water quality in LEC and other locations in support of operation of the Ashokan Release Channel." This is too narrow a focus, in order to understand the impacts and benefits to optimizing releases, there must be frequent and purposeful collecting of data for the benefit of understanding the Lower Esopus Creek and watershed.

DEC Response to Comment 151. The stated objective has been changed to say 'in support of analysis of the effects of the operation of the Ashokan Reservoir Release Channel'.

Comment 152. Rephrase Monitoring Sites category: "Condition: Normal – Release Channel Not Operating." The condition "normal – release channel not operating" does not accurately reflect the Interim Release Protocol or the will of the many different release protocols for a base low flow to operate under normal hydrologic conditions.

DEC Response to Comment 152. The monitoring section of the IRP has been modified, and the three operational conditions are now: Release Channel not operating; Release Channel operating; and Release Channel operating and Ashokan spilling.

Comment 153. For both Community releases and Spill Mitigation releases, until additional turbidity control mechanisms can be identified and put in place, both protocols should require releases of the best West Basin water available. Until this can be provided through the ability to select the least turbid water in the basin mechanically, the protocols should require that release of the equivalent of the best West Basin water available be achieved by blending with East Basin water to achieve the turbidity of the least turbid layer in the West Basin.

DEC Response to Comment 153. At the time the IRP was initiated, NYCDEP did not have the flexibility to choose the best quality water to release from the West Basin. Recent improvements to operations have afforded the NYCDEP that flexibility and therefore the IRP indicates that for both the Community releases and Spill Mitigation releases, NYCDEP will make reasonable efforts to make releases from the elevation in the West Basin with the least turbidity. DEC agrees the protocol is an interim protocol and that a final release protocol or strategy will be the result of processes established by the final Order and EIS.

Comment 154. Under Paragraph 7: Exceptions, any operating protocol must provide that DEC has the sole authority to approve operations at variance with the protocol when requested by DEP. DEC should limit its grant of variances to emergency situations, including imminent flood or drought that threatens the NYC Watershed supply, and short term interruptions necessary to enable inspection, testing, maintenance and repairs.

DEC Response to Comment 154. The exceptions listed in Paragraph 7 require DEC concurrence.

Comment 155. Appendix B, the October 18, 2011 IRP, should be discarded and replaced with an “Ashokan Reservoir Release Strategy” (ARRS) that would be developed based on knowledge and input obtained from regulatory agencies, stakeholders and technical experts. This strategy would be focused on flood mitigation releases and would contain approximate turbidity and flow limits.

Comment 156. Under the Water Quality Monitoring Plan – “Monitoring Sites-Condition: Release Channel Operating” – add to “Lower Esopus Stream Sites”; the Little Beaverkill above and below confluence with Release Channel. This monitoring will allow comparison to enable quantification of the impacts of the release channel to the Little Beaverkill.

DEC Response to Comments 155 and 156. The IRP is based on scientific studies of the aquatic habitat of Esopus Creek which were utilized to establish the requirements in the Shandaken Tunnel SPDES permit, the research and analysis upon which the operational support tool (OST) is based, as well as experiences gained in releases from the Delaware System. The OST also uses enhanced customized forecasts from the National Weather Service. The Spill Mitigation Protocol prescribes a release rate that will release the projected surplus storage over a 7 day period. This is intended to reduce the reservoir storage level to the CSSO in a period that is suitably short to minimize the time spent with voids less than

those targeted by the CSSO curve. Additionally, the Order has been modified to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders. The Department believes the water quality monitoring plan includes sufficient monitoring locations to evaluate the impacts of the Release Channel.

Comment 157. All proposed sampling is frequency-based with no event-based monitoring. For all site types except Keypoints, which is 5 day/week, storm flows could be generated and abated between sampling frequencies, creating gaps in turbidity loading data for the Lower Esopus Creek. Then monitoring protocol should identify a qualifying storm, such as equal to or greater than 0.5 inches of rainfall, and require monitoring at all sites within 24 hours of that event under both normal and release conditions.

DEC Response to Comment 157. Although the monitoring included in the monitoring plan is not event based, the frequency is sufficiently robust that storm events have been and will continue to be reflected in the monitoring data.

### Operational Releases

Comment 158. Paragraph 3: Operational Release Protocol, the IRP should be revised to eliminate Operational releases since Operational releases will be required less than 3% of the time. DEC should address these releases on a case-by-case basis in response to requests from DEP in consultation with stakeholders.

Comment 159. No Operational releases should be a part of or be authorized by the draft Interim Release Protocol as the Operational releases proposed constitute a violation of state environmental laws. Section 3 of the Interim Release Protocol titled Operational Releases should be deleted from the document.

Comment 160. Recommends that NYSDEC revise the interim protocol to eliminate the provision for Operational releases, pending completion of the planned environmental review, which will provide for a complete evaluation of environmental conditions in the Lower Esopus Creek.

DEC Response to Comment 158-160. The Ashokan Reservoir releases are made to protect and enhance recreational uses of waters and to protect property while ensuring and without impairing an adequate supply of high quality water for any municipality which uses Ashokan Reservoir water for drinking. NYCDEP operates the Ashokan Reservoir primarily for purposes of public water supply. One of the reasons why the DEC developed the IRP was to put in place a standardized process, rather than case by case process in which decisions are made in the midst of an event. The enforceable IRP provides assurances related to every type of release which might occur until the environmental review process is completed.

Comment 161. By incorporating the current Interim Release Protocol, the Order allows the City to continue releasing large volumes of excessively turbid water to the Lower Esopus for at least the next 18 months in volumes similar to those discharged over the past 8 months, with all of the problems those releases have caused in the past.



Comment 162. Specific recommendation for paragraph “d” of the protocol governing turbidity should include the following: “Releases lasting 14 days or longer with turbidity levels higher than an average of 100 NTU should be followed by a 72 hour release of the least turbid water available in the reservoir every 14 days and upon meeting the storage objective. “We recognize that 100 NTU is still a very high level of turbidity and that long-duration releases at this level are likely to create problems downstream. We anticipate that this recommendation will need to be revisited based on experience with initial levels specified herein.

DEC response to Comments 161 and 162. The allowed turbidity of Operational releases has been revised for the final Order. The long-term effects of the Release Channel will be evaluated as part of the ongoing studies prescribed in the Order and SEQRA process.

Comment 162. Paragraph 4: Notification should indicate that any operating protocol should not only require reporting of all operational changes with respect to reservoir releases through the Waste Channel to Ulster County Emergency Management, Ulster County Department of the Environment and DEC, but also must insure that this information is communicated in a timely manner to all recreational and other users of the Creek, including swimmers, anglers and boaters.

DEC Response to Comment 162. The final Order has been modified to require NYCDEP to post operational changes on its website, as NYCDEP currently does.

### Spill Mitigation Releases

Comment 163. Rename “spill mitigation releases.” “Turbidity Reduction and Flood Mitigation Releases” is a more expression of the purpose of the releases. Calling the turbidity release strategy “spill mitigation releases”, implying that the purpose of the Combined Seasonal Storage Objective (CSSO) is primarily for flood mitigation and not primarily for turbidity control, is misleading.

DEC Response to Comment 163. The Department does not believe that this suggested change is necessary. The Spill Mitigation strategy is used elsewhere in the NYCDEP system unrelated to turbidity control.

Comment 164. The turbidity limit for Spill Mitigation releases in the Interim Release Protocol of 300 NTUs is too high. The level permitted under the Protocol should be “no visible contrast” or a specific differential as is done with the Shandaken Tunnel releases.

Comment 165. The Spill Mitigation Release Protocol allows for Ashokan Reservoir releases of water with turbidity levels greater than 300 NTU followed by a 72 hour “flush.” Minimum flow levels identified a “flush” flows need to be defined, as does the basis upon which the “flush” would be deemed effective.

Comment 166. Flood mitigation releases should be governed by clear caps as to the quality, quantity and duration of flows allowed, governed by the general principal that the more

turbid the water, the more limited the quantity of the releases and the more frequent the interspersed releases of clearer water.

Comment 167. Discharges of water with turbidity greater than 100 NTU are described as not being allowed except where the Esopus Creek flow into the Ashokan reservoir is greater than 100 NTU, how are “releases” of 300 NTU possible?

DEC Response to Comments 164-167. There are no caps on turbidity during Spill Mitigation releases in the IRP that was issued on October 18, 2011. Similar to what is recommended by these comments; the IRP has been revised to provide for increased flushing and more restrictive turbidity controls. The Spill Mitigation Protocol has been revised to include requirements to provide for enhanced flushing and more restrictive turbidity controls.

Comment 168. The void in the Ashokan should be kept at 20% during high water times (February – May and August – November). A 10% void should be maintained the remainder of the year.

Comment 169. Create larger voids in late March/April and late August/September when historically floods have occurred: conduct greater drawdown beginning in August.

DEC Response to Comments 168 and 169. The Conditional Seasonal Storage Objective (CSSO) curve is intended to maximize Spill Mitigation without reducing public water supply capabilities. This suggestion would potentially reduce the public water supply capabilities. The Order has been revised to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders.

Comment 170. Paragraph 2.F.: Void Target, when turbidity in both the West Basin and East Basin is below the 5 NTU threshold for diversion to Kensico, DEP should divert to Kensico from the West Basin in order to create a void for potential flood mitigation, until such time that turbidity in the West Basin exceeds the 5 NTU threshold.

Comment 171. During Spill Mitigation releases, NYCDEP should utilize the Catskill Aqueduct to deliver water to NYC to the maximum extent practical.

DEC Response to Comment 170 and 171. For the most part this reflects current Ashokan operations, but this reservoir operation management detail is best performed by the system managers (NYCDEP) and is not appropriate for this Consent Order.

Comment 172. Paragraph 2.b.: Maximum Flow should be modified as follows: “Throttle as necessary so the combined flow for Ashokan spill and Release Channel discharge does not exceed 1,000 MGD with maximum flow from the Release Channel not to exceed 600 MGD. To be protective of various recreational and agricultural uses, from July 1 to October 14 the maximum flow rates shall be 300 MGD or less unless another rate is deemed necessary by DEC.

Comment 173. Specific recommendation for paragraph “c” of the Spill Mitigation Protocol governing maximum flow should include the following: “Because the Lower Esopus Creek is

used for various recreational and agricultural purposes, it is necessary to limit the low rate from July 1 to October 14 to be protective of those uses. Therefore, the maximum flow rates shall be 300 mgd or less unless another rate is deemed necessary by DEC.”

DEC Response to Comments 172 and 173. The Spill Mitigation Protocol prescribes a release rate that will release the projected surplus storage over a 7 day period. This is intended to reduce the reservoir storage level in a suitable short period. A maximum limit on the Spill Mitigation release rate may reduce the frequency at which the full voids are present and reduce the enhanced attenuation effect of those voids. The DEC retains the right to reduce Spill Mitigation Protocol release rates to protect recreational and agricultural uses as it deems necessary. In general, the Department does not expect the Spill Mitigation release rate to be greater than 300 MGD for most of the relevant time period due to lower seasonal inflows and higher seasonal diversions.

Comment 174. Paragraph 2.d.: Turbidity should include the following language: “The turbidity of releases from the Release Channel shall be no more than 15 NTU higher than either the turbidity entering the West Basin from the Upper Esopus, or the turbidity of the receiving watershed of the Lower Esopus, whichever is less.

DEC Response to Comment 174. This recommendation would significantly constrain (and many times render ineffective) the Spill Mitigation program. It is important to note that the Spill Mitigation Protocol has been revised to include requirements to provide for enhanced flushing and more restrictive turbidity controls.

Comment 175. The purpose and focus of the Discharge (Flood) Mitigation releases should be to help mitigate the effects of flooding to Lower Esopus Creek communities below the Ashokan Reservoir in a manner that is consistent with and has the least possible impact on agricultural, recreational and ecological services that the creek provided. Calculations of releases necessary to achieve that objective should consider the impacts of climate change and increased precipitation over the past 30 years in attempting to model appropriate release volumes throughout the year, including late summer and early fall.

The Interim Release Protocol Figure 1 Void target should be modified to facilitate reaching a lower objective over a longer period of time, by increasing regular community discharges during late summer and early fall months.

DEC Response to Comment 175. The Order has been revised to allow for modifications to the IRP as additional modeling and impact assessments are performed and as a result of monitoring and other lessons learned during its implementation, with input from the stakeholders.

Comment 176. During Spill Mitigation releases, the use of the Shandaken Tunnel should be minimized and in compliance with the existing SPDES Permit.

DEC Response to Comment 176. The IRP requires that, during Spill Mitigation releases and when reservoir storage is suppressed to meet the CSSO objectives, the use of the Shandaken Tunnel to provide water to the Ashokan Reservoir will be minimized in keeping with the existing SPDES permit and consistent with proper water supply management.

## Community (aka Conservation) Releases

Comment 177. DEC should remove the “Community Release Protocol” from the proposed Interim Release Protocol and place a provision requiring those releases as a separate requirement in the Order or the Schedule of Compliance for the Order until those releases are required pursuant to a DEC-initiated modification of Part 672-2.3.

DEC Response to Comment 177. Because the IRP is already part of the Order, there is no reason to make this change. DEC has not, at this time, determined that it is necessary to modify Part 672. Including the Community Releases as part of the IRP and Order provides reasonable assurance that they are in place now, enforceable, and will continue for the term of the Order. Modifications to Community releases are an alternative that can be addressed through the environmental assessment process required by the request to modify the Cat/Alum SPDES permit.

Comment 178. The base flow for Community releases should be increased to 65 MGD during the summer season (May 1 thru October 31) and 50 MGD in the winter season (November 1 thru April 30).

Comment 179. The release rates specified in the Community Release Protocol section of the Interim Protocol are not adequate.

Comment 180. Base flow releases should be established at 65 MGD during the summer season (May 1 – October 31) and 50 MGD in the winter season (Nov 1 – April 30).

Comment 181. The Community Release Protocol should include a summer release of 65 MGD and a winter season release of 50 MGD. This more accurately reflects the hydrologic conditions of the Esopus Creek.

Comment 182. Prior to finalizing the Consent Order, increase Community Releases to a minimum of 65 MGD (100 cfs) under normal hydrologic conditions and increase even more during times of seasonal high flows to complement void creation strategy. As a long-term release strategy, the DEC, City and ARWG should thoroughly investigate a release strategy that involves tying release to the upper Esopus flows.

Comment 183. Riverkeeper recommends an increase in the quantity of Community releases (also known as conservation releases), particularly in the late summer and early fall and during above normal hydrologic conditions, to assist with improving both stream health and flood mitigation.

DEC Response to Comments 178-183. The Order requires the City to identify and evaluate the potential significant adverse environmental impacts associated with reasonable alternatives for operation of the Ashokan Reservoir. Under the Order the City is required to submit to DEC a draft scope for an Environmental Impact Statement (EIS) comprehensively assessing the potential impacts (biological, chemical, physical, and economic) from the City’s proposed modifications to the Cat/Alum SPDES permit including, but not limited to,

releases from the Release Channel to the Lower Esopus Creek in accordance with the Interim Protocol - within 60 days after the Order was signed by the DEC Commissioner on October 4, 2013. DEC will issue a draft scoping document for public review in accordance with time frames established in SEQR regulations. During the public comment period on the draft scope, DEC will consider comments regarding recommendations for topics to be included in the DEIS such as the ones provided here, in preparation of a final scope that the applicant will be required to use to prepare the DEIS.

Comment 184. Turbidity limits for Community Releases should be added to Section “c” of the protocol as follows: “Turbidity levels in excess of 30 NTU will trigger a 30% reduction in release flow. Turbidity in excess of 100 NTU will trigger a 50% reduction in release flow.”

DEC Response to Comment 184. Although not exactly what is recommended by this comment, the IRP has been modified to include turbidity triggers for restricting Community releases in the spirit suggested by the comment.

Comment 185. The Consent Order does not provide for a measurement methodology to determine whether the DEP is making a reasonable effort to make releases from the elevation with the least turbidity in order to avoid discolored water in the Esopus Creek.

DEC Response to Comment 185: The IRP includes requirements under the Community releases, Operational releases, and Spill Mitigation releases that the City of New York provides the least turbid water or specifically identifies turbidity limits of water that can be released and duration for how long such water can be released.

The bottom, middle, surface data provided in the Upper Esopus/Ashokan Reservoir/weekly water quality report the NYCDEP provides on a weekly basis includes information that allows for determining whether NYCDEP is making reasonable efforts to make releases from the elevation with the least turbidity.