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December 14, 2018

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Stamford Government Center
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Via Electronic Mail: LISNitrogen@EPA.gov

**RE: Comments on Long Island Sound Nitrogen Strategy – Subtask F&G
Memorandum**

Dear Mr. Tedesco,

The National Association of Clean Water Agencies (NACWA) represents over 300 public clean water utilities across the country, including more than 40 utilities in Regions 1 and 2. NACWA's members treat and reclaim the majority of the wastewater generated each day nationwide, providing an essential public service that protects human health and the environment. NACWA previously wrote Regional Administrators Dunn and Lopez to express concern over the lack of stakeholder engagement on the LIS Nitrogen Reduction Strategy (Strategy) efforts, the overall flaws in the process EPA was using – outside of the total maximum daily load (TMDL) context – and the technical deficiencies with some of the earlier reports. That letter is attached for your reference.

We appreciate the opportunity EPA has provided to comment on the technical report entitled, “Establishing Nitrogen Endpoints for Three Long Island Sound Watershed Groupings” (Subtask F&G Memorandum or Memorandum). The fact that EPA is now seeking public comment on this document signals an important improvement over how the Agency had been proceeding with work on the Strategy in the past. Concerns remain, however, over the process EPA is using to conduct this work. For instance, while EPA is now seeking comments from a broader array of stakeholders, it states on its website for the Strategy that there are no plans to respond to the comments that are submitted. Seeking input without thoughtfully responding to that input is not meaningful stakeholder engagement.

In addition, NACWA continues to believe that the reports related to the Strategy – including the recent Memorandum on Subtask F&G – are not yet technically adequate or defensible and should not serve as the sole or major basis for requesting additional nitrogen reductions or Clean Water Act permit revisions. EPA argues that these documents will not have direct

regulatory impacts, but permitting decisions are already being influenced by the incomplete work on the Strategy.

Concerns with EPA's Reliance on Old Data and Flawed Analyses

NACWA remains concerned about the reliance on old data and information to develop the nitrogen endpoints in the Memorandum. In addition, while EPA presents the results of multiple analyses, the approaches EPA's contractor employs have all faced criticism in the past:

- Use of literature values is inadequate because it fails to take into account the many other variables that differ from one waterbody to the next. Without factoring in these other variables, literature values alone cannot demonstrate an actual cause and effect link between nitrogen loads and impacts on the endpoints for the waterbody in question.
- The empirical stressor-response analysis was criticized by EPA's own Science Advisory Board in 2010, when the Board noted that "considerable unexplained variation can be encountered when attempting to use the empirical stressor-response approach to develop nutrient criteria" and that "statistical associations may not be biologically relevant and do not prove cause and effect" (*Report to EPA Administrator Lisa Jackson, SAB Review of Empirical Approaches for Nutrient Criteria Derivation, April 27, 2010*).
- The distribution-based approach (aka, the reference-based approach) has been roundly criticized since EPA first attempted to use it when establishing national criteria recommendations. Few states have opted to use this approach given its limitations in the nutrient context. The usefulness of distributions of data – in this case very old data – is extremely limited when trying to describe the complex interactions involved with nutrients.

To avoid arbitrary decision-making when using any model, an agency must be able to draw a rational connection between the factual inputs, modeling assumptions, modeling results and conclusions drawn from these results. *Sierra Club v. Costle*, 657 F.2d 298, 332-33 (D.C.Cir.1981). A reviewing court also will reverse an agency action that relies on a model, "if the model is so oversimplified that the agency's conclusions from it are unreasonable." *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1052 (D.C. Cir. 2001) (citations omitted). When a model is challenged, EPA must provide a full analytic defense. *Eagle-Picher Indus., Inc. v. U.S. EPA*, 759 F.2d 905, 921 (D.C.Cir.1985). EPA must be able to explain the assumptions and methodology used in preparing the model. *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 535 (D.C. Cir. 1983). Further, proceeding without a fully developed model of the Sound is contrary to EPA's own recommended water quality criteria for nutrients which state: "wherever possible, develop nutrient criteria that fully reflect localized conditions and protect specific designated uses." 66 FR 1671, 1673 (Jan. 9, 2001).

Due to the flaws discussed above and in our previous letter, LIS analyses, alone or in tandem, or any preliminary information from this exercise, should not be used as the basis for any current action, including setting or informing permit limits. NACWA also has questions about EPA's planned peer review process, how that will work, and how the peer reviewers will be selected. Submitting these documents for peer review does not obviate the need for a formal review and comment process, with meaningful engagement from the Agency, including responding to stakeholder comments.

EPA's Avoidance of the TMDL Program is Inappropriate

EPA acknowledges on its website that the Strategy is intended to address remaining impairments, but will proceed outside of the TMDL process:

EPA is implementing a strategy to aggressively continue progress on nitrogen reductions, in parallel with the States' continued implementation of the 2000 Total Maximum Daily Load (TMDL), and achieve water quality standards throughout Long Island Sound and its embayments and near shore coastal waters. The strategy recognizes that more work must be done to reduce nitrogen levels, further improve dissolved oxygen (DO) conditions, and address other nutrient-related impacts in Long Island Sound. The nitrogen reduction strategy complements the 2000 TMDL in important ways. Foremost, while the 2000 TMDL is premised on achieving water quality standards for DO in the open waters of LIS, the EPA strategy expands the focus to include other nutrient-related adverse impacts to water quality, such as loss of eelgrass, that affect many of LIS's embayments and near shore coastal waters.

While EPA is careful to refer to “impacts” in its discussion of the Strategy, avoiding the use of the word “impairment”, the underlying implication that serves as the foundation for all of this work is EPA’s view that certain waters need additional work to meet water quality standards. In other words, they are “impaired.” The Clean Water Act provides a clear process to follow when addressing impaired waters. EPA used the TMDL program when it first established the dissolved oxygen TMDL in 2000, but it has now chosen to avoid a new TMDL process in favor of a non-transparent ‘strategy’ that it argues allows for more “adaptive management.”

We are very concerned about how the work underlying the Strategy may be used – especially to the extent that it may be used to support new effluent limits imposed on regulated parties, despite the fact that those parties are currently covered by wasteload allocations in the TMDL. In its August 2018 response to NACWA’s April 2018 letter, EPA says this about the studies it is conducting to support the Strategy: “The studies, once finalized, may not apply to a particular situation or circumstance, but are intended as a source of relevant information to be used by water quality managers, at their discretion, in developing nitrogen reduction strategies.” That does not allay our concern.

If “nitrogen reduction strategies” referred to by EPA include an assumption that certain parties need to reduce their discharges, those strategies could lead to an attempt to impose new, more stringent permit limits. That would be illegal. EPA’s permit rules are directly linked to and required to implement the TMDL program. Indeed, EPA guidance directs permit writers to use WLAs to derive water quality based effluent limitations (“WQBELs”) for permits. NPDES Permit Writers’ Manual at 107. The regulations specifically provide that when developing WQBELs, EPA must ensure that “effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available WLA for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.” 40 CFR 122.44(d)(1)(vii)(B).

Any new limits based on a “nitrogen reduction strategy” that uses the new LIS studies would be blatantly inconsistent with the TMDL’s “assumptions and requirements,” and would therefore not comply with the Agency’s permitting regulations. Although federal rules also refer to a “reasonable potential” analysis, the Agency has stated in guidance that a separate reasonable potential analysis is

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unnecessary where the state has already approved a TMDL and WLAs, because the water quality determination is inherent in the TMDL and WLA decision. *Questions and Answers on the Great Lakes Water Quality Guidance*, Set 2 (March 20, 1996) at Q&A No. 21. Discharges that were covered in the LIS TMDL should be based on the WLA's in that TMDL, until EPA and/or the States develop a new or revised TMDL. The studies that EPA is currently performing, even if they result in the creation of a "nitrogen reduction strategy," cannot form the basis for new permit limits unless they are used in developing that new or revised TMDL, with all of the process and public comment that is required.

In its recent letter to NACWA, EPA notes that the work it has underway is not developing any requirements or other provisions that are legally binding. This position ignores the fact that any additional water quality improvements expected to result from development of this Strategy are unlikely to be realized if it is not used by states and regional offices to develop permit limits and other requirements that are legally binding. EPA should instead use the established process for reviewing and revising TMDLs that require improvement.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Hornback". The signature is fluid and cursive, with a large initial "C" and "H".

Chris Hornback
Deputy CEO

cc: Anna Wildeman, Office of Water, US EPA Headquarters
John Goodin, Office of Water, US EPA Headquarters
Deborah Nagle, Office of Water, US EPA Headquarters
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ATTACHMENT

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Adam Krantz

April 2, 2018

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Dear Administrators Dunn and Lopez,

The National Association of Clean Water Agencies (NACWA) would like to express its concerns with how the US Environmental Protection Agency (EPA or Agency) is currently addressing Long Island Sound water quality issues, both from a process standpoint and from a scientific perspective. NACWA represents over 300 public clean water utilities across the country, including more than 40 utilities in EPA Regions 1 and 2. NACWA's members treat and reclaim the majority of the wastewater generated each day nationwide, providing an essential service that protects human health and the environment.

This letter is intended to outline the Association's concerns, and to suggest a better way for EPA and all stakeholders to move forward to improve water quality in the Sound. We look forward to meeting with the Agency to discuss these issues.

BACKGROUND

As you know, the Clean Water Act specifies that if a waterbody is not meeting water quality standards, the State is required to include the waterbody on its "impaired waters" list under CWA Section 303(d), and then develop a Total Maximum Daily Load (TMDL) to address the impairment. And that is exactly what happened for Long Island Sound. EPA worked with the states in the Long Island Sound watershed to develop a TMDL for the eutrophication issues in the Sound.

That TMDL was issued in 2000 by the States of New York and Connecticut and approved by EPA. Since then, the states have worked to implement the TMDL. Due to those efforts, there has been significant progress in improving water quality in the Sound. As EPA itself

has recognized,¹ the reductions in nutrient loadings have been significant – due in large part to the work of clean water utilities. Moreover, many of the plant improvements have only recently been completed, so it is expected that additional improvements in water quality will be occurring. Nevertheless, challenges no doubt remain, both in the Sound and in other areas of the watershed, including embayments and rivers that lead to the Sound. The issue now is how to address those challenges.

When the TMDL was issued, it was anticipated – and stated at the time – that the TMDL would periodically be reevaluated. That process is fully consistent with the key concepts in the TMDL program, which call for review and, if necessary, revision of TMDLs every five years. That process, if properly conducted, would involve collecting new data and conducting a transparent process, involving all stakeholders, to assess the current condition of the watershed and the expected condition after implementation of planned controls. This would inform what changes need to be made to the TMDL and to the control requirements that follow from the TMDL. Unfortunately, no such review and revision process has occurred.

The Long Island Sound Study (LISS) office is conducting a technical assessment as to water quality issues in the watershed. This assessment is being conducted in a manner that (perhaps in part due to lack of sufficient resources) is not allowing for the appropriate level of dialogue with stakeholders and is not providing opportunities for most stakeholders to provide effective input into the process. Moreover, there is no indication that EPA has adequately considered the comments of the few parties that are allowed to provide detailed input, even though those parties have raised substantial concerns about the scientific basis for the work that EPA and its contractor are doing. Further, the work products from this nontransparent process will apparently be used, ultimately, in determining binding control requirements in NPDES permits for dischargers, with the only limited opportunity for comment – on individual draft permits – coming well after all of the scientific assessments have been completed.

The process currently being followed by the LISS office is the wrong way for EPA to proceed. Perhaps most fundamentally, it is proceeding despite a weak technical basis and inadequate stakeholder input. As a result, it is likely to result in billions of dollars being spent on pollutant controls, without any way of knowing whether those enormous expenditures – to be borne by the clean water ratepayers of communities throughout the watershed – will actually yield water quality benefits.

CONCERNS WITH STRUCTURE OF CURRENT PROCESS

In assessing how the remaining water quality issues in Long Island Sound should be addressed, NACWA believes it is important to review the structure of the current LISS process and compare it to the way that a TMDL review/revision procedure would ordinarily be conducted.

Currently, the work being done by EPA for the LISS program is being done in phases or subtasks. There have been seven subtasks worked on to date; the most recent work products are for Subtasks F and G, which involve empirical modeling and setting of nitrogen thresholds. As technical materials are drafted

¹ The Agency stated the following in 2015: “As you know, implementation of the *Total Maximum Daily Load to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (2000 TMDL) has resulted in significant progress toward reducing dissolved oxygen (DO) impairments in the open waters of the Sound. EPA commends the states for their collective efforts to implement the measures necessary to meet the load reductions specified in the 2000 TMDL. Upgrades to 106 wastewater treatment facilities in Connecticut and New York have resulted in the discharge of 40 million fewer pounds of nitrogen in calendar year 2014 compared to baseline levels, a 51.5 percent reduction. Annual monitoring has documented a 40 percent reduction in the area of hypoxia compared to pre-TMDL levels.” December 23, 2015, Letter from Regional Administrators Spalding (Region 1) and Enck (Region 2) to Commissioners Freise (NH), Klee (CT), Schuren (VT), Seggos, (NY), and Suuberg (MA).

for each phase, they are provided to EPA staff, and then given to a Technical Advisory Committee (TAC) for review. The TAC consists primarily of EPA and representatives from the affected states, as well as a few NGO and academic representatives that have long ties with LIS scientific issues. As far as we know, there is only one representative of a specific municipality on any of the groups, even though it is expected that municipal clean water utilities would be substantially affected by any new control requirements imposed due to the LISS work.

For each phase of work, the representatives on the TAC are given the opportunity to provide detailed comments on draft technical work products and discuss the comments in general terms on a conference call. Thereafter, the contractor prepares a 'response to comments summary' and makes changes to the Draft Report for EPA approval. However, there is no formal process for reviewing and commenting on the final changes to technical materials prior to the final report being issued. The comment response summary is issued by EPA's contractor, rather than more formally by EPA. Moreover, the TAC representatives have been told that they cannot share the draft materials with any stakeholders who are not included in the TAC.

As for actual opportunity for public comment by stakeholders who do not have representation on the TAC, outside stakeholders are not given any formal chance to comment on specific draft documents. If they are signed up to receive e-mails from LISS, then they are informed when a final document is put on the LISS website. But there is no specific comment period provided – they are simply free to submit comments if they choose, but with no guarantee that the comments will be read, and no commitment for any kind of response to the comments at any point in the process.

Ultimately, we understand that the work products generated by EPA may be used to set binding limits in discharge permits for regulated parties. However, those parties, or any other members of the public, will not be given any formal opportunity to review and comment, or to have their comments considered and addressed, until the actual permits have been drafted and issued as proposals. Then, the final work products will be referenced as support for the effluent limits included in those permits. That will put the stakeholders in the position of having to monitor the issuance of each individual permit to see what limits are included, to assess how those limits fit with the limits that were included in other permits, and to raise scientific concerns. Of course, since each permit is addressed individually, by the State (or EPA Region) that issues the permit, there is no guarantee that those scientific concerns will be addressed in a consistent way from permit to permit. The result could easily be a patchwork of inconsistent permitting decisions.

An additional process concern is that EPA's new nitrogen strategy remains undefined. The work of EPA's contractor was originally supposed to generate nitrogen load reductions and load allocations as part of the Subtask H & I reports. However, it is our understanding that EPA has cancelled this part of the contract.

CONCERNS WITH SCIENTIFIC BASIS OF CURRENT EFFORTS

Perhaps more concerning than the lack of transparency and stakeholder engagement in the process is the fact that based on experience to date, it appears likely that any permitting decisions related to the LISS will be based on an extremely weak scientific basis (again, NACWA believes, due in part to lack of sufficient financial resources to do the needed work). Throughout the process that has been followed, the parties that do have representation on the work groups, including the State agencies and the New York City Department of Environmental Protection (NYC DEP), have raised substantial concerns on scientific issues. Here are some examples of statements made in comments submitted on the most recent EPA contractor work products:

- “RIDEM is concerned that the proposed nitrogen endpoint may be too stringent for areas in the Pawcatuck River where eelgrass has not historically grown, but not be stringent enough for the Little Narragansett Bay, where eelgrass has historically grown.” (Rhode Island Department of Environmental Management (RIDEM))
- “There are multiple biological and physical processes (grazing, phytoplankton species selection, flushing rate) that complicate the TN-water column chlorophyll model and the impact of water column chlorophyll on light attenuation and eelgrass growth. Given this, it is not surprising that the TN-CHL relationship presented in figure G-2 and similar figures for other estuaries is weak.” (RI DEM)
- “[T]he empirical approach used in this exercise is quite simplistic, lacks consideration of site-specific conditions, and is not consistent with Connecticut Water Quality Standards (WQS).” (Connecticut Department of Energy and Environmental Protection (CT DEEP))
- “The approach is based on developing correlations between nitrogen concentrations and chlorophyll a. The resulting R^2 correlations were not strong.” (CT DEEP)
- “DEC has significant concerns about the process by which these TN endpoints were developed.” (New York State Department of Environmental Conservation (NYS DEC))
- “While DEC is supportive of developing water quality endpoints protective of eelgrass, we are concerned that using eelgrass as the sole basis for all TN endpoints may not be appropriate for all embayments.” (NYS DEC)
- “The data and analysis are inadequate at this time to determine additional nitrogen thresholds for the open waters of Long Island Sound.” (NYS DEC)
- “The data and empirical modeling approaches used by [EPA’s contractor] are inadequate at this time to determine additional nitrogen thresholds for the open waters.” (NYC DEP)
- “The approach used for the establishing TN thresholds in the open waters is particularly problematic relying only upon a literature survey and TN distribution analysis and lacking any stressor-response modeling information.” (NYC DEP)
- “The report is not truly reflective of current conditions.” (NYC DEP)
- “[S]ome of the nitrogen control measures implemented to date are very recent and it will take some time for the sediments to respond and for reduced levels of sediment oxygen demand and nutrient fluxes for all the water quality improvements to take hold....[I]mplementing additional control measures is premature without first understanding the connections that link water quality parameters to what is believed to be the cause of the water quality impairment.” (NYC DEP)

It is clear, then, that there are significant concerns about the scientific basis of the work that EPA is currently performing for the LISS program. Because of the lack of up-to-date, consistent, and statistically meaningful data to inform the models (which themselves need to be updated), the permit limits ultimately based on that work could require communities in the watershed to spend billions of dollars on new control systems that may not result in any net environmental improvement. Many of these communities have already invested heavily in control equipment to meet the allocations

contained in the original Long Island Sound TMDL and the numerous other EPA/State regulatory requirements that apply to their operations.

Also, many of these communities are under severe economic stress, and the burdens imposed on their ratepayers are already large, particularly for those people at the lower end of the economic spectrum. Given those circumstances, it is incumbent upon all concerned to ensure that any new mandates imposed in the name of further improvements in Long Island Sound have been developed based on a strong scientific basis, so all stakeholders can have a reasonable level of confidence that the reductions required (and the associated costs) are necessary, and will actually lead to attainment of the cleaner Sound all stakeholders desire.

LEGAL CONCERNS WITH USE OF NARRATIVE STANDARDS

In addition to the process and scientific issues set forth above, NACWA has concerns about the legal basis that EPA appears to be using in implementing the LISS work products. Rather than working with states to determine the appropriate numeric water quality standards for relevant eutrophication-related parameters (which are developed through State rulemaking processes, with full involvement by affected parties), NACWA believes that EPA intends to develop water quality targets that will then be considered to be numeric interpretations of State narrative criteria – without any of the procedural protections that are provided when numeric standards are developed.

NACWA recognizes that EPA's regulations include provisions for developing permit limits when a state has not yet developed a water quality criterion for a particular pollutant. However, these provisions were intended to ensure that water quality was protected while numeric standards are being developed. It was never intended that EPA and states could dispense with developing numeric standards and instead use "numeric interpretations of narratives" as a permanent regulatory tool to use in deriving permit limits – especially not for long-term, broad-scale issues such as nutrients. Translating generic narrative nutrient criteria directly into numeric permit limits simply does not allow for the thoughtful deliberation that is needed, and which will be provided in the process of setting numeric standards. Moreover, because use of narratives leads to inconsistent "translations" in individual circumstances, this approach will only lead to more delay in addressing nutrients, as permits are challenged on a case-by-case basis. Instead of continuing reliance on narratives, EPA should work with the states to determine how numeric standards can be developed to ensure that Long Island Sound water quality is protected, with a strong scientific basis, through a careful process that provides effective opportunities for input by all involved.

CONCLUSION

All parties involved with the Long Island Sound have the same basic goal: to achieve attainment of a cleaner Sound, in a process that ensures that controls required are necessary and will lead to real improvement. In order to attain that goal, it is critical that EPA, with the states and all involved stakeholders, address these Long Island Sound issues in a fully transparent process that pays adequate attention to the challenging scientific issues that are presented. NACWA believes that the right way to do that – and the way called for in the Clean Water Act – is to perform a reevaluation, and revision if necessary, of the Long Island Sound TMDL, pursuant to the established TMDL process. That TMDL process is designed to provide adequate public involvement, and to ensure that scientific issues are fully reviewed, and then addressed in responses to comments. NACWA and its members are ready to engage productively as stakeholders in that process, and are willing to discuss with EPA and the states how to ensure that adequate financial resources are devoted to collecting the needed data, performing the necessary analyses, and ultimately developing the allocations – and the consequent control actions - that will bring the Sound, and its tributaries, into compliance with water quality standards.

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April 2, 2018

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NACWA looks forward to meeting with personnel from Region 1 and Region 2, in a joint meeting, to review these issues further, and to discuss how we can best move forward together.

Sincerely,

A handwritten signature in black ink that reads "Adam Krantz". The signature is written in a cursive style with a long horizontal stroke at the end.

Adam Krantz
Chief Executive Officer

cc: John Goodin, Acting Director, Office of Wetlands, Oceans and Watersheds, Office of Water, EPA HQ
Deborah Nagle, Acting Director, Office of Science and Technology, Office of Water, EPA HQ
Andrew Sawyers, Director, Office of Wastewater Management, Office of Water, EPA HQ