

**EXECUTIVE COMMITTEE**

**PRESIDENT**

**Raymond J. Marshall**

*Executive Director*

Narragansett Bay Commission  
*Providence, RI*

**VICE PRESIDENT**

**Cathy Gerali**

*District Manager*

Metro Wastewater  
Reclamation District  
*Denver, CO*

**TREASURER**

**David St. Pierre**

*Executive Director*

Metropolitan Water  
Reclamation District of  
Greater Chicago  
*Chicago, IL*

**SECRETARY**

**Mark Sanchez**

*Executive Director*

Albuquerque Bernalillo County  
Water Utility Authority  
*Albuquerque, NM*

**PAST PRESIDENT**

**Adel H. Hagekhalil**

*Assistant Director*

City of Los Angeles -  
LA Sanitation  
*Los Angeles, CA*

**CHIEF EXECUTIVE OFFICER**

**Adam Krantz**

August 1, 2016

Elizabeth Southerland

Director, Office of Science and Technology

Office of Water

U.S. Environmental Protection Agency

1200 Pennsylvania Ave., N.W.

Washington, DC 20460

*Via Electronic Mail*

Dear Betsy,

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to weigh in on EPA's secondary treatment screener survey. NACWA is grateful that you reached out to us in advance to get our input on the general idea of a study on the performance of secondary treatment.

Overall we support EPA's efforts to gather more information on the performance of secondary treatment plants in removing nutrients. However, we do have concerns with the pace at which this effort is moving and whether it will be successful in meeting the objectives given this pace. Our comments below are based on only a cursory review by a subset of our members. We will have more time to review the survey during the public comment period, but the importance of this issue and the impact the survey will have on the clean water community demands that we proceed carefully.

Our primary concern is regarding whether the survey approach will achieve EPA's objectives. Given that the Agency plans to use its authority under Clean Water Act (CWA) Section 308, we urge you to proceed carefully to ensure that you are requesting only information that is absolutely necessary for the study and that the study and survey design will achieve the Agency's objectives before asking POTWs to complete any surveys. We also have significant concerns with using Section 308 as a mechanism to collect the data, as expressed in more detail below.

In discussing the idea of the study further with our experts, concerns have been raised over whether a national survey is the best way to collect the type of information EPA desires. In other words, can a statistically significant survey, even

one that is expertly designed, provide sufficient granularity to discern the unique aspects of a particular treatment plant that may appear identical to another treatment plant? Could a larger set of exhaustive case studies provide better, more meaningful information on the performance of particular treatment designs while enabling discussion of the unique aspects of a particular facility? These and other important questions should be answered before an effort involving 308 letters and approximately 15,000 permittees begins.

We intend to coordinate our input on the survey with the Water Environment Federation (WEF) but understand that they will likely not have a chance to provide input during this initial, very quick turnaround period. We plan to work with WEF to develop more detailed comments as time permits.

Below are some general thoughts on the study and some specific comments on the screener survey.

### General Comments

- NACWA feels strongly that EPA should draft and pilot the follow-up, detailed survey now before it conducts the screener survey with 308 letters to thousands of permittees. This pilot will give EPA the information it needs to ensure that the entire effort will meet the stated goals or help inform a different approach. NACWA, and others like WEF, can partner with EPA to recruit the necessary POTWs to complete the pilot survey.

Once EPA has the pilot completed on the detailed survey, the Agency can develop a data analysis strategy and determine, using the pilot information, what the survey needs to look like in order to support the goal of a statistically representative or “valid” data set. EPA should clearly define and characterize what a statistically representative or “valid” data set looks like.

- NACWA remains concerned that the effort will result in a report that will be used by third parties to justify nutrient technology standards for wastewater treatment. The report will carry substantial weight and could ultimately determine permit conditions for thousands of permittees. Accordingly, it is essential that the study design and data analysis strategy be beyond reproach before EPA proceeds.
- Use of EPA’s 308 authority is deeply concerning to NACWA, raises questions as to EPA’s objectives for the study, and will create immediate suspicions among clean water utilities receiving the survey that have no understanding as to why EPA seeks the information. Elements of the survey, including asking utilities to indicate whether they bypass – an illegal activity according to EPA – will expose thousands of utilities to potential enforcement from EPA. Failure to complete the survey will similarly expose utilities to potential enforcement. While EPA may choose not to enforce in these instances, failure to comply with a 308 letter would expose utilities to third party lawsuits under the Clean Water Act.

We understand that EPA believes the use of 308 letters is the only way to guarantee enough responses to ensure the survey is statistically significant. But we are very concerned EPA has not sufficiently thought through the likely negative ramifications of using this approach. While organizations like NACWA and WEF can do our best to try and educate our members about the survey’s goals and the reasoning for using 308 letters, there will still be thousands of POTWs receiving the letters that are not NACWA/WEF members and will likely have a visceral negative reaction to receiving such an inquiry.



We strongly encourage EPA to give significant consideration to the negative aspects of using 308 letters as part of the data gathering process and to seriously evaluate other options. NACWA is interested in working with the Agency to identify ways to conduct a statistically significant survey without reliance on EPA's 308 authority. NACWA's legal team is researching alternative mechanisms and we would like the opportunity to discuss other paths to collect this information.

- The screener survey does not ask for TSS or BOD data – the primary performance standard for secondary treatment. Given that this is a survey of standard secondary treatment facilities it would seem desirable to collect that information as well.
- There are several questions (#1, #9, #28) that seem to have no bearing on determining permittee status relative to the objective of the survey.
- EPA should not ask whether permittees bypass treatment. This is a highly controversial issue and EPA continues to hold that bypasses are illegal. This question alone could derail the entire survey process and lead to legal proceedings.

## Specific Comments

- The introduction focuses on harmful algal blooms, but the majority of nutrient problems are aquatic life or nuisance algae/aesthetic related. This section would benefit by characterizing the nutrient challenge more broadly to include TMDL, water quality based, and state nutrient control requirements.
- The introduction identifies nutrients as the most expensive water quality challenge. This statement is overly simplistic. The cost of removing nutrients is not easily categorized, can vary significantly, and arguably could be less expensive than controls for toxics that will be required to protect human health consistent with EPA's new policies in some parts of the country. This section would benefit from a more accurate characterization of nutrient removal costs for various N, P, and N & P control options. Actual, estimated, and modeled cost data from the Water Environment Research Foundation (WERF) Nutrient Compendium, Wisconsin BNR (1 mg/l) experience<sup>1</sup>, State of Utah<sup>2</sup>, Montana N & P numeric criteria and cost information (see footnote 1), and Chesapeake Bay TMDL<sup>3</sup> should be used in this section for multiple nutrient control approaches.
- Biological Nutrient Removal (BNR) System definition and Question #22 – EPA is defining biological nutrient removal (BNR) as requiring both N and P removal. There are POTWs that are designed to provide removal of only one but not the other, and such plants are certainly beyond the definition of “conventional secondary” treatment. EPA's definition in the survey includes the Modified Ludzack-Ettinger process as an example of BNR, however this process is used solely to remove nitrogen and would not fit in EPA's definition of BNR.

---

<sup>1</sup> WDNR, 2012, Cost of Phosphorus Removal at Wisconsin POTWs <http://dnr.wi.gov/topic/surfacewater/documents/MarkWilliamsReport.pdf>

<sup>2</sup> State of Utah, 2010, Statewide Nutrient Removal Cost Study, <http://www.nj.gov/dep/wms/bears/docs/UtahStatewideNutrientRemovalCostImpactStudyRptFINAL.pdf>

<sup>3</sup> University of Maryland School of Public Policy, 2012, Saving the Chesapeake Bay TMDL: The Critical Role of Nutrient Offsets, [http://www.chesapeakebay.net/channel\\_files/19062/660--environmental\\_workshop\\_report\\_final\\_spring\\_2012.pdf](http://www.chesapeakebay.net/channel_files/19062/660--environmental_workshop_report_final_spring_2012.pdf)

If a POTW treats only for TP (for example many POTWs in freshwater discharge scenarios) they will be considered standard secondary treatment by the survey as currently drafted. This will bias the report to indicate that standard secondary treatment can achieve lower nutrient concentrations than it can in reality. EPA should define BNR to include any plants that are designed to target nitrogen or phosphorous by themselves as well as those plants that are designed to remove both nutrients.

Qualifying BNR as only POTWs that promote the growth of certain bacteria is problematic. If a POTW reduces TN to 1 ppm and was designed to do so, there is enough information to qualify as some form of treatment beyond standard secondary treatment without information on the growth of certain bacteria.

- The design flow capacity definition is problematic. EPA defines it as the maximum flow that the facility can successfully process. We need clarification on what parameters EPA is referring to relative to “process” and what does “successfully” mean. Also, a duration component was not included in the definition. Is it the maximum flow that can be treated over a year, month, week, day or hour, and is it the true maximum or an average maximum? In practice, the definition is not very well understood in the wastewater sector and many have different perceptions of what it means. This is an issue that must be addressed more thoroughly – potentially through a pilot of the full survey – before the official survey is distributed.
- Glossary – Nutrient definition – The first sentence with the general definition of nutrient makes the second sentence inconsistent with this definition, as there are recalcitrant portions of the targeted elements that cannot be assimilated by living things. The definition should state that for the purpose of this questionnaire, all forms of nitrogen and phosphorus, which are typically called total nitrogen and total phosphorus by measurements, should be included.
- The survey question of whether BNR is in place (and if the answer is “yes”, the utility will not be part of the survey) should be the first question. The answer early on in the survey will save resources for everyone.
- Screener, Question 9 – Discharges to another WRRF. Should this refer to discharges to “another publicly owned WRRF”?
- Screener, Question 10 – Remove redundant reference to Table 1.
- Screener, Question 16 – Is this information pertinent to the study? If so, some plants may have difficulty determining the inflow and infiltration and/or may not have it readily available. Also, there is a wide range of methods that can be used to estimate this. EPA should consider adding a place to enter in how the I/I was estimated and/or provide the preferred method or methods for estimating for the sake of consistency, if this information is essential to meet EPA’s study objectives.
- Screener, Question 17 – The question on treatment technologies also discusses key process units. The question would benefit from being asked as an open ended question, with the utility providing key process units instead of choosing from a partial list and a one-page key process diagram (e.g. screens, primary clarifiers, aeration basins, secondary clarifiers, sand/cloth filters/membranes, UV or



Chlorination/dechlorination, anaerobic digestion, struvite recovery, heat recovery, ammonia recovery/stripping, engine generators, methane gas cleaning...).

- Screener, Question 17 – Some sources (e.g., WEF Nutrient Removal – MOP #34) classify MBBR under “attached growth systems” rather than “combined suspended/attached/growth systems” as MBBR’s activity is primarily derived from the attached biomass.
- Screener, Question 17 – A denitrification filter is a biological process.
- Screener, Question 18 – Does “seasonal design temperature” refer to wastewater temperature, design or actual, or ambient temperature? If not specified, responses may be either – yet not identified as to which. NACWA suspects that many (perhaps most) POTWs will not know a design temperature basis for their facility. Can this question be left blank? Is there an option to insert a “don’t know” response for this or other questions in the electronic screener?
- Screener question 22 – See comment above on definition of BNR. Survey needs to include the range of N, P and N&P treatment technologies and treatment levels for N, P, and N & P. Additionally, it would be helpful to know if the utility is subject to TMDL, water quality based, or state minimum technology nutrient requirements. Not all states or WRRFs use the 8 mg/l TN and 1 mg/l TP definition or target, so the question should ask the control level and EPA analysis can compare to the 8 mg/l TN/1 mg/l TP target.
- Several questions – #17, #22, #24, #27 – have one or more misspellings of “phosphorus”. [“...ous”]
- 30 days to Complete Survey (page 5) – Is this enough time to pull all of these data? More time would be helpful for most facilities, 45-60 days is a more reasonable timeframe.

Again, thank you for the opportunity to provide comments on the draft screener survey. We look forward to discussing the concept of a survey pilot with you soon.

Sincerely,



Chris Hornback  
Chief Technical Officer