



November 18, 2016

VIA ELECTRONIC SUBMISSION

Elizabeth Southerland, Director
Office of Science and Technology
Environmental Protection Agency,
1200 Pennsylvania Ave. NW.,
Washington, DC 20460;

Subject: Proposed Collection; Comment Request; Proposed Information Collection Request for the National Study of Nutrient Removal and Secondary Technologies: Publicly Owned Treatment Works (POTW) Screener Questionnaire (Docket ID No. EPA-HQ-OW-2016-0404)

Dear Director Southerland:

On behalf of the Bay Area Clean Water Agencies (BACWA), we thank you for the opportunity to comment on the Proposed Information Request for the National Study of Nutrient Removal and Secondary Technologies: POTW Screener Questionnaire (Questionnaire). BACWA is a joint powers agency whose members own and operate publicly-owned treatment works (POTWs) and sanitary sewer systems that collectively provide sanitary services to over 7.1 million people in the nine-county San Francisco Bay (SF Bay) Area. BACWA members are public agencies, governed by elected officials and managed by professionals who protect the environment and public health.

In the San Francisco Bay Region, nutrients are a major priority for the water quality community. Historically, the San Francisco Bay has not been adversely impacted even though it has relatively high nutrient loading. However, there are growing concerns that its natural resiliency due high turbidity, low stratification and filter feeding organisms is decreasing. There are substantial uncertainties about the nature of potential impacts due to nutrient loadings, as well as what level of nutrient reductions may be required to mitigate these possible impacts. In the face of these uncertainties, the members of the Bay Area POTW community that discharge to the San Francisco Bay voluntarily collaborated with the San Francisco Bay Regional Water Quality Control Board (Water Board) to enter into a Nutrient Watershed Permit¹ that requires on-going monitoring and reporting of nutrient loadings and substantial funding of the science program whose goal is to address the uncertainties.

¹ NPDES No. CA0038873

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The Nutrient Watershed Permit has four tenets:

1. *Monitoring* – Each agency covered by the permits must monitor for and report concentrations and loads of nitrogen and phosphorus species.
2. *Reporting* – Agencies must submit an Annual Report either individually or as a group through BACWA. All the agencies covered by the permit have elected to participate in the Group Annual Report.
3. *Support for Scientific Studies* – Prior to the adoption of the Nutrient Watershed Permit, BACWA supported scientific studies examining the impacts of nutrients in the San Francisco Bay. The Nutrient Watershed Permit captures and increases that support for the science. Scientific studies are governed by a Steering Committee made up of BACWA, regulators, and other stakeholders. The Steering Committee ensures that studies are prioritized and funded in a manner that addresses the concerns of all these different constituencies. This scientific process and its oversight are managed through the San Francisco Estuary Institute and referred to as the San Francisco Bay Nutrient Management Strategy².
4. *Optimization and Upgrade Studies* – Agencies with flows greater than 1 mgd are required to evaluate alternatives for each individual POTW for reducing nutrient loads to the San Francisco Bay, including process optimization, sidestream treatment, and process upgrades, and to consider alternative means of reducing nutrient loads such as increased water recycling. They are also required to evaluate costs, as well as beneficial and adverse ancillary impacts associated with each nutrient treatment alternative, such as changes in the treatment plant’s energy use, changes in greenhouse gas emissions, changes in sludge and biosolids treatment or disposal, and reduction of other pollutants (e.g., pharmaceuticals) through advanced treatment. Agencies were given the option to complete these studies either individually or as part of the group, and they all elected to participate in the group study.

Through this extensive program, BACWA, Regional Regulators, and other stakeholders aim to ensure that any actions taken to address nutrients are supported by science, with a comprehensive understanding of their costs and benefits.

Because we are involved in this complex, multi-stakeholder effort to address nutrients in our Region, the BACWA community is uniquely positioned to evaluate the potential effectiveness of the Questionnaire proposed by EPA for gaining an understanding of nutrient treatment nationwide. BACWA retained a consultant team, including HDR Inc., to assist with the preparation of the Optimization and Upgrade studies required by the Nutrient Watershed Permit. HDR has prepared a list of “lessons learned” on obtaining information from agencies to better understand nutrient discharges for the purpose of regulatory decision-making. HDR is working with NACWA to submit these “lessons learned” to EPA in a separate communique, but BACWA wishes to also highlight them as part of our comments on the EPA survey. BACWA’s “lessons learned” which mirror those of HDR are summarized below:

² For more information, visit the San Francisco Bay Nutrient Management Strategy Website at <http://sfbaynutrients.sfei.org/>

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- 1) Getting the plant loadings correct is key to understanding current conditions and establishing a basis for further analysis. When little nutrient monitoring information is available, such as when plants sample infrequently and there is limited data (for example only sample 1x/month), the basis for analysis is tenuous.
- 2) The perception of the purpose for gathering the survey information and how it will be used is influential and may shape the responses and accuracy of the information received. Experience has shown that it takes on average 2 to 3 phone calls, or direct contacts with individual treatment plants, to illicit complete responses, sort out questions, and address details of the survey.
- 3) It is important to understand existing treatment objectives because descriptors like Secondary Treatment vs. Advanced Treatment do not tell the whole story of the process configuration. Some plants are comprised of portions for advanced treatment and portions for secondary. Also, the treatment processes and configuration may change seasonally.
- 4) The structure of discharge permit effluent limits may influence the information gathered in a survey. Averaging periods and Load v. Concentration based limits, etc. impact on how a plant operates, and consequently on the effluent performance data.
- 5) Water recycling complicate effluent quantities. In some cases, the effluent flows are significantly reduced from influent flows. Reuse applications also make a difference in the sense that in some cases the recycled water comes back to the facility. For example, recycled water used for power plant cooling water is returned to the treatment plant in concentrated form, sometimes with different nutrient concentrations or nutrient speciation.
- 6) Individual facilities are very unique. Even after requesting historical plant performance data, compiling it, and spending a day with each individual facility, there are still numerous communication exchanges required to fully understand the effluent data and develop individual nutrient reduction strategies.
- 7) Individual facility operational histories and personal preferences may limit what modifications can be done to existing facilities to reduce nutrient discharges. Options such as “splitting the plant into two” with one side reducing nutrients and the other side maintaining secondary treatment, may be a viable optimization strategy, but may be unacceptable to some. It may be important to develop a metric for the willingness to change and/or improve to do new things, such as nutrient removal, in order to evaluate the potential for optimization efforts.
- 8) The decision to implement opportunities for nutrient reduction may be challenging for plant managers. The costs for potential nutrient optimization efforts may not be insignificant. Modifications may result in facility changes that are inconsistent with long term objectives such as plans for future upgrades, treatment capacity reserved for future growth, or capacity allocated to existing (industrial or residential) customers that needs to be preserved.

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- 9) Most plant operations are primarily focused on meeting existing discharge limits. Some utilities may be reluctant to pursue nutrient optimization for a number of reasons, including existing treatment process challenges, aversion to risks, avoidance of distractions, diversion from prime compliance objectives, resource limitations, etc.

More information about BACWA's efforts pertaining to nutrients is available on our website at <http://bacwa.org/nutrients/>. I would be happy to discuss our program further at your convenience.

Respectfully Submitted,

David R. Williams

David R. Williams
Executive Director
Bay Area Clean Water Agencies

cc: BACWA Executive Board
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