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September 26, 2011

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U.S. Environmental Protection Agency

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Washington, D.C. 20406-0001

Submitted via www.Regulations.gov

Re: Docket ID No. EPA-HQ-OPPT-2010-0812; Testing of Bisphenol A

The National Association of Clean Water Agencies (NACWA) appreciates the opportunity to comment on the U.S. Environmental Protection Agency's (EPA) Advance Notice of Proposed Rulemaking (ANPRM), "Testing of Bisphenol A" (BPA) (Tuesday, July 26, 2011; 76 *Fed. Reg.* 44535). NACWA represents the interests of nearly 300 of the nation's publicly owned wastewater treatment works (POTWs) or clean water agencies. NACWA's members continue to face challenges as they strive to meet increasingly stringent Clean Water Act (CWA) requirements while having limited control over the toxic pollutants and other substances in the wastewater they treat.

Treatment processes employed by clean water agencies are not designed to remove BPA or other contaminants of emerging concern (CEC), although several CECs are in fact removed, degraded and/or partitioned during the treatment process. Research by our industry is being conducted to identify ways to maximize current treatment processes to potentially treat some of the thousands of chemicals now being quantified in municipal wastewater.

However, treatment solutions cannot be solely relied upon to address CECs where risk is determined to be unacceptable. A product stewardship approach, which requires that manufacturers understand and communicate the fate and potential environmental impact of a contaminant and take actions to mitigate potential impacts is necessary. With sound toxicity information and environmental occurrence data, the use of these substances can be managed to ensure they do not result in environmentally relevant concentrations at the treatment plant, in wastewater effluent, or in the biosolids generated as part of the wastewater treatment process.

Product stewardship and other pollution prevention/source control approaches must play an increasingly important role in ensuring the integrity of wastewater treatment processes and residuals management programs. This is particularly important for a substance like BPA, which is present in hundreds of products available to the public. While POTWs can control industrial and commercial discharges via mandatory pretreatment requirements to prevent plant upsets or pass through to the environment or biosolids, they have no control over many other discharges to the system, including those from residences. POTWs must constantly be mindful of the quality of the wastewater they treat, the quality of the effluent and biosolids they produce, the health of the biological treatment processes they employ, and the very real compliance implications associated with the use of acute and chronic whole effluent toxicity tests to evaluate POTW effluent.

As it has consistently stated in previous letters to the Agency, NACWA's position is that EPA must fully leverage its authority under key environmental statutes like the Toxic Substances Control Act (TSCA) to ensure that POTWs are not held responsible under the CWA for water quality or other environmental impacts resulting from substances that have simply slipped through the cracks of environmental statutes. EPA has not done this sufficiently in the past, and POTW discharges are being more heavily scrutinized than ever before as dischargers of CECs. Every effort must be made to ensure what enters the sewer system and ends up in wastewater effluent or biosolids does not pose unacceptable risk to human health or the environment.

NACWA Urges EPA to Include Additional Data, Perform More Studies

The information presented in the ANPRM suggests that additional efforts are needed to better evaluate the effects of BPA at low concentrations. Of greater importance to NACWA are the current data EPA has on the occurrence of BPA in wastewater effluent and biosolids and the potential sampling and monitoring effort to evaluate the environmental concentrations of BPA.

In the ANPRM, EPA relies on two U.S. studies (Ref. 45 and Ref. 46) for its discussion of wastewater effluent concentrations, with one study reporting no BPA above the detection level and the other reporting concentrations of 0.38 and 0.31 ppb. Unfortunately, neither of these studies also looked at concentrations of BPA in biosolids. For biosolids, EPA again relies on two U.S. studies (Ref. 49 and Ref. 50) conducted by Kinney, et al. In both of these studies, samples were only taken from the biosolids, not the wastewater influent or effluent.

Only a single study from Canada of multiple POTWs (Ref. 47) examined wastewater influent, effluent and sewage biosolids. Wastewater levels from that study were comparable to those reported in Ref. 46. EPA has not included the data that the Agency collected in its own study, "Occurrence of Contaminants of Emerging Concern in Wastewater From Nine Publicly Owned Treatment Works" (August 2009; EPA-821-R-09-009). This study reported no BPA detected in the influent or effluent of any sampled plant.

The varying concentrations of BPA in wastewater and the lack of studies that evaluate influent, effluent, and biosolids at the same POTW require that more data be collected. In addition, the variability in the data suggests that BPA's presence in wastewater and biosolids may vary significantly based on the presence of a major BPA source or sources discharging to a particular sewer system. This suggests that a tiered approach, initially targeting sampling and monitoring to those areas where BPA is expected to be present, will better allow EPA to evaluate real-world concentrations and pair that information with its new toxicity information. A more comprehensive sampling study, including targeted sampling of certain wastewater collection and treatment systems, to more broadly characterize wastewater and biosolids concentrations nationwide must be conducted prior to drawing conclusions regarding the environmental risks associated with POTW discharges of BPA.

As EPA notes in the ANPRM, environmental concentrations are not the only relevant pieces of information for evaluating potential impact. The exposure pathway – which for POTWs is either discharge of wastewater into an adjacent waterbody or land application of biosolids – is equally important. Concentrations in biosolids may not equate to concentrations in nearby streams or rivers. How biosolids are applied, the proximity of a waterbody, how BPA degrades once biosolids are applied, etc., are all relevant factors that will also need to be evaluated. For example, as EPA notes in the ANPRM, Kinney et al. (Ref. 50) evaluated concentrations of BPA in earthworms living in soil where biosolids were land applied. While BPA was detected at 81 ppb in earthworms living in the soil, the authors detected 147 ppb in a nearby “control” soil that was not receiving biosolids.

Toxicity Data Should Be Collected to Enable Use in Other EPA Programs

It is critical that any toxicity tests be standardized to ensure repeatability and increase the utility of the data for use in risk assessments and future CWA aquatic life criteria development. If EPA requires additional toxicity tests under TSCA for BPA, which includes endpoints such as estrogenicity, the standardized approaches utilized in the Endocrine Disruptor Screening Program (EDSP) would be an appropriate starting point. However, the EDSP battery of tests is extremely limited with regard to taxonomic diversity, an important consideration for data used in the CWA criteria context.

An additional concern when conducting a risk assessment for a CEC, such as BPA, is the use of non-traditional test endpoints. EPA is aware of the scientific debate surrounding these test endpoints and has recognized that these endpoints must have environmental relevance with regard to population-level impacts. It is critical that this link to population-level effects be maintained in any toxicity evaluation of BPA so that any value that is deemed to be protective is similar in scientific rigor and defensibility to a value that may be produced through the CWA aquatic life criteria development process. The data collected for this risk evaluation could be used to inform future criteria development and decisions regarding the request for additional data should be made with this consideration.

To effectively support the use of any new data in the CWA context, EPA must strive to incorporate the EPA Science Advisory Board’s (SAB) recommendations regarding criteria development for CECs. In addition to the SAB’s comments regarding the relevance of non-traditional endpoints, EPA must heed its cautions regarding the use of non-resident species in toxicity tests – namely that non-resident species must not be over-represented in the database used to evaluate risk. Data supporting the use of non-resident species and their tested endpoints as surrogates predicting impacts on resident species must be available prior to using surrogates to develop risk benchmarks. Likewise, the SAB recommended an expert panel approach to data review, evaluation and criteria development. A similar approach would be beneficial for this BPA evaluation process.

Sampling/Monitoring Program Must Be Carefully Developed

Making conclusions about BPA concentrations in biosolids or wastewater nationally is complex. The unique processes employed by POTWs, including their varying sizes and flow characteristics (e.g., volume, percent of flow comprised of industrial/commercial dischargers), make the process of selecting a representative sample crucially important. Any comprehensive sampling study will need to collect information on wastewater influent, effluent, and biosolids for each wastewater treatment plant studied. Studies looking only at wastewater concentrations or biosolids concentrations have limited use given the nature of the wastewater treatment process.

When conducting monitoring and subsequent analyses, EPA must stress the use of promulgated sampling and analytical methodologies and appropriate quality control (QC) measures, including field blanks, field duplicates, analytical duplicates, and any method-appropriate QC verifications necessary for the specific matrices tested. If methods do not undergo promulgation, the reliability of those methods to provide data of quality required for its use in laboratories across the country is questionable, at best.

The *Federal Register* notice seeks comment specifically on whether or not assays for estrogenicity would be useful in evaluating BPA effects. Without a criteria objective for evaluating estrogenicity of a sample, there would be no effective way to evaluate data on estrogenicity. Furthermore, estrogenicity will be an indirect measure of a multitude of compounds other than BPA. The potential modes of action for BPA extend beyond effects caused solely by its potential estrogenicity and may not be captured in a test for estrogenicity. Spending resources on a measure that has the potential to inaccurately characterize the effects of BPA in the environment is inappropriate at this time.

Ultimately, the costs associated with sampling of wastewater effluent or biosolids to determine environmental exposure levels must be borne by the industries that produce or use BPA. POTWs are not sources of BPAs and CECs and, therefore, the burden on POTWS should be minimal. If sampling and testing does take place, however, POTWs must be consulted and involved throughout the process on the specifics of those activities.

Tiered Approach Seems Warranted Based on Information in ANPRM

As contemplated in the *Federal Register* notice, a tiered approach that would start with an evaluation of BPA effects at low concentrations coupled with some targeted sampling to evaluate environmental concentrations is warranted. Ultimately, any testing regime must be sufficient to inform EPA properly on the risks and to support management decisions. Proper design and data collection will help to preclude future issues for the nation's clean water agencies and EPA. NACWA and its members are willing and ready to help EPA in developing a sampling and testing plan that meets the objectives set out in this letter.

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Again, a pollution prevention/source control approach that evaluates the full potential for chemicals to have an impact on the treatment plant or the environment must be the focus of future efforts to address the growing list of concerns. EPA's Design for the Environment program is focused on these types of efforts, including an ongoing initiative to find alternatives to BPA in thermal paper.

NACWA appreciates the opportunity to comment on the ANPRM. Please contact me at 202-833-9106 or chornback@nacwa.org with any questions or to discuss these comments further.

Sincerely,



Chris Hornback
Senior Director, Regulatory Affairs