

# **OHIO RIVER VALLEY WATER SANITATION COMMISSION**

**MINUTES**  
**210<sup>th</sup> Meeting of the Technical Committee**  
**Embassy Suites RiverCenter**  
**Covington, KY**  
**February 9-10, 2016**

**Chairman Mike Wilson, Presiding**

### **Call to Order**

The 210<sup>th</sup> meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Tuesday, February 9, 2016. Five states, three federal agencies, and three Commission advisory committees were represented (for Roster of Attendance see page 13).

### **Minutes of 209<sup>th</sup> Committee Meeting**

**ACTION:** Motion passed to accept the minutes of the 209<sup>th</sup> Technical Committee meeting.

### **Chief Engineer's Report**

Director Harrison reported that the USEPA released the Toxic Release Inventory on January 21, 2016. The total number of pounds of chemicals released to the Ohio River for 2014 was slightly less than during 2013. He reported that staff is working to develop a five-year projection of finances for the Program and Finance Committee as well as a set of needed projects that are currently unfunded. Finally, he congratulated Ryan Argo and the biological staff on the Montgomery Pool biological report which was made available at the meeting.

### **Overview of ORSANCO's Technical Programs for the Development of FY17 Recommendations**

Staff provided an overview of ORSANCO's current technical programs to facilitate Technical Committee input regarding recommendations for the FY17 program plan. Programs overviewed included water quality monitoring and assessment, biological, pollution control standards, source water protection, and special projects. Recommendations for the FY17 technical program emanating from this presentation as well as throughout the meeting were summarized at the end of the meeting.

### **Report of the Biological Water Quality Subcommittee**

Staff provided a report of the Biological Water Quality Subcommittee which met at ORSANCO's offices on January 19-20 to review results of 2015 pool surveys and assessments, develop recommendations for biological programs, review the newly developed macroinvertebrate index, and consider how that index will be used in conjunction with the fish index when results are conflicting. Details were provided regarding a final recalibration of the macroinvertebrate index, the use of the component metrics in exploring nutrient criteria development, and incorporation of the index alongside the existing fish index to assess the Aquatic Life Use of the river. A summary of the 2015 pool

surveys was also discussed, indicating that all three pools (Montgomery, Racine, and J.T. Myers) were in Good condition based on fish populations and Montgomery was in Fair condition based on macroinvertebrates. Results for Racine and J.T. Myers were pending receipt of macroinvertebrate data from the analytical lab and will be discussed at the June Technical Committee meeting. Mr. Thomas then presented a brief overview of causes of annual variation in the pool surveys and an overview of the newly revised one page summaries of the biological pool survey results. The presentation ended with a description of the new sampling schedule approved by the BWQSC which includes sampling three pools per year and using the remaining resources from the fourth pool survey to be directed towards the highest ranked ‘special study’ as determined by the BWQSC that would enable further insight into factors affecting biological assessments of the Ohio River. The plan allows for continuing with a fourth pool scheduled to be surveyed if no special study was deemed important enough.

The Technical Committee accepted the report of the BWQSC as presented and requested that the list of special studies and their descriptions be shared with the Committee for further input. OEPA and the US Coast Guard both recommended ranking the mussel surveys higher (was listed as 5<sup>th</sup> priority). It was also recommended to include the option of doing a complete re-survey the following year of a pool that had a borderline assessment as one of the special studies for consideration. Some discussion was generated regarding whether the same 15 sites should be used for the re-survey or if a new draw of 15 different random sites should be used and how targeted sampling might be included. Other discussion involved how the 15 sites in a pool are summarized to account for variability and how ORSANCO uses biological data generated from pool surveys. Staff will follow up on these two points.

### **Harmful Algal Blooms**

A draft HAB Response and Communications Plan was presented to the Technical Committee at the June 2015 meeting. After the 2015 HAB event, staff was directed to review and revise the plan with the goal to have a newly revised draft available for the June 2016 Technical Committee meeting. The HAB Workgroup was expanded and includes representatives from each State, USEPA, USGS, USACE, and the Water Users Advisory Committee. The revised plan will include input from the workgroup as well as comments received from the Technical Committee and the two roundtable discussions.

Staff presented an outline of the recommended changes. The Algae/Toxin Standards section will reference contact recreation standards when they are developed by US EPA. These standards are expected late in 2016. For the section on HAB determination and monitoring, it was noted that the states will determine what level of toxins will require an advisory. ORSANCO will provide the data the states need to make these determinations. The role of ORSANCO in communications during a HAB event will be detailed. The revised plan will include a comprehensive list of state and federal personnel that will be contacted during a HAB event and what events will trigger that communication. States continue to work on their own HAB plans. ORSANCO will reference these in the plan as they are developed. Staff presented an overview of a proposal to revise the Ohio River HABs response and communications plan.

Staff also discussed a data assessment strategy to investigate HABs stressor-response variables. Staff presented a plan to assess the data to determine the causes of the 2015 HAB event. Potential stressors were identified as was a plan to collect available data. Staff will analyze the data and will also make it available to other researchers. USEPA is pursuing a RARE grant to fund their analysis.

Some of the fundamental questions to be answered are:

- What made 2015 different from other years?
- What were the conditions prior to the bloom and at the time of the bloom?
- What was different between areas that experienced the bloom and those that did not?
- Recommendations for future sampling (identification of data gaps).

Staff was advised to include sunlight and alkalinity in the list of possible causal variables.

### **USEPA's HABs Response & Communications Plan**

Chris Impellitteri presented an overview of the USEPA's Office of Water and Office of Research and Development research priorities related to harmful algal blooms. They have been working on cyanobacteria and their toxins included in the drinking water Contaminant Candidate List, analytical methods development for microcystins, nodularin-R, anatoxin-a, and cylindrospermopsin, drinking water health advisories and recommendations for public water systems to manage cyanotoxins in drinking water. He reported that a draft "Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water" has been submitted to Congress for review. They are working on recreational ambient water quality criteria for cyanotoxins and expect to have a draft in the fall of 2016. He also discussed the collection of national data on cyanotoxins from drinking water systems and National Aquatic Resource Surveys, outreach and communications and partnerships and collaborations.

There are four main areas of research including, water quality, health effects, monitoring/analytical methods, and drinking water treatment. Under water quality, two main areas of research are on the causes of the occurrence of HABs, and how water quality trading programs can be used in the control of HABs. Under health effects, they are investigating the characterization of cyanobacteria strains and their toxic/allergenic components, qPCR analytical approaches to identifying HABs, investigation of temperature impacts on blooms, bioaccumulation in mammals and aquatic life, and effects on various human cells and specific human health effects from cyanotoxins. Under monitoring and analytical methods, they are investigating satellite-based monitoring, rapid detection methods using fluorometry, high frequency techniques to understand nutrients role in blooms, development of predictive tools with a tribal focus, and development of other analytical methods for microcystin including the evaluation of current methods. Drinking water treatment research is currently focused on Lake Erie and Toledo, including the evaluation of various drinking water treatment techniques, as well as evaluating the impacts of algaecides on the control of cyanobacteria.

Mr. Impellitteri finally reported that he is trying to coordinate funding from regions 3, 4 and 5 to assess all the water quality data associated with the 2015 Ohio River harmful algal bloom though a Regional Applied Research Effort (RARE) grant.

### **Mercury Studies**

Commissioner John Kupke, Chairman of the Ad Hoc Committee on Mercury Studies, reported that the charge of the committee is to make recommendations to the Commission regarding mercury studies needed to answer the questions relevant to ORSANCO and Ohio River mercury issues. This will be an educational process for both ORSANCO and the general public. The committee has identified the

important questions that should be addressed and some of the information gaps. Commissioner Kupke then reported on the committee membership.

Staff then reported on the results of committee teleconferences held on Nov. 4 and Jan. 11. A set of information needs was developed and prioritized, with the highest priority being a mercury mass balance to understand the relative contributions of mercury to the Ohio River from the various sources. Other information needs include various aspects of mercury transport, fate and bioaccumulation in the Ohio River, as well as management issues such as ORSANCO's regulations pertaining to mercury. Letters were sent to ORSANCO's close partners to identify all the relevant data available on mercury, and the inventory of that data is currently being compiled. Staff completed a comprehensive literature search and compilation which was reviewed by the committee. Finally, the committee asked that Martin Risch with the USGS and Rob Reash (AEP, TEC member, PIAC Chairman) work with staff to develop a proposal to quantify the mercury loading in the Ohio Basin from atmospheric deposition. This proposal has been recently drafted but not yet reviewed by the committee. The next steps for the committee are to begin development of recommendations to the Commission for specific study needs.

Staff then summarized the work currently underway on methyl mercury in Ohio River tributaries. The tributary monitoring project was on-schedule with the 4<sup>th</sup> of 12 monthly events underway in February. Tributary sampling methods and the 15 sampling locations were presented with a discussion of quality assurance procedures for sampling locations that are close to the Ohio River. Tributary samples are collected by the single "vertical at centroid of flow" (VCF), a method chosen because of its speed, which allows the planning of 15 geographically distant sample events per month. Specific conductance measurements are being used to test the presence of Ohio River water in the lower reaches of monitored tributaries. Quality assurance procedures dictate samples be collected from water entirely contributed by the tributary of interest.

### **The Air and Water Connection of Mercury in Watersheds**

Martin Risch, with the US Geological Survey, Indiana Science Center, presented a project on mercury in Indiana watersheds from atmospheric deposition. Human activities release mercury to air and water, some of which is converted to methyl mercury which accumulates in aquatic life, biomagnifies up the food chain, while humans are exposed from exposure typically through the consumption of fish. Mercury criteria to protect humans and wildlife are often exceeded, and fish consumption advisories based on mercury are common. Atmospheric mercury is a global issue, as well as a regional and local issue, as it can travel very long distances (globally). Mercury levels in the Ohio River have exceeded water and fish criteria. A joint ORSANCO-USGS Ohio River mercury study in 2010 found levels of mercury lower than in Indiana streams (2001-2006) as well as lower than historic Ohio River mercury data (2007-2009). Ohio River mercury is predominantly particulate and tends to increase with increasing flow and suspended sediments. He then explained the mercury cycle in the environment.

Mr. Risch then presented results of a case study conducted in 26 Indiana watersheds to investigate the air-water-fish mercury connection. Mercury monitoring data included stream and lake water and fish samples, and atmospheric wet-deposition samples. The highest elemental mercury levels were found in an urban watershed, the highest methyl mercury levels in a more rural watershed, and the highest fish tissue levels at the downstream end of Wabash River watershed. Stream loads and yields were calculated and compared to atmospheric deposition loading of mercury which was calculated from data obtained from the Mercury Deposition Network, the NADP Atmospheric Network, and NOAA precipitation gages. Average annual stream mercury loads were shown to be related to average annual atmospheric mercury loads. Average stream concentrations were shown to be related to the number of

emission sources, the number of major wastewater discharges (>1 MGD), and percentage of forest land cover.

Hydrologic models such as the Water Availability Tool for Environmental Resources (WATER) can be used to compute the atmospheric mercury deposition which is transmitted from the landscape to surface waters. The methods used in this project could be utilized to estimate the atmospheric component of mercury in the Ohio River.

### **Other Mercury Studies Relevant to the Ohio River**

TEC members were asked to report to the committee on current or future planned mercury studies that might be of interest to ORSANCO. Rob Reash presented a study currently underway on "Speciation and Bioavailability of Mercury in Ambient and Watershed-Influenced Water Samples: A Preliminary Study." Bioavailable mercury may include methyl mercury as well as reactive inorganic mercury. The study will involve the collection and analysis of total and dissolved mercury, as well as methyl mercury and reactive inorganic mercury in ambient water, wastewater, and in the mixing zone. They will also be analyzing for other variables including TSS, TOC, pH, and sulfide. The objective of the study is to determine the bioavailable portion of mercury in the Ohio River for the purpose of evaluating the possibility of regulating the discharge of mercury based on its bioavailability. Results of the study are not yet available.

### **Source Water Protection Programs**

Staff provided an update on the Organics Detection System and on spill notification. The ORSANCO Organics Detection System (ODS) currently has 15 active ODS sites where the facilities provide staffing to screen river water samples for volatile organic compounds (VOCs). The ODS sites routinely analyze for a list of 30 calibrated VOC's. The 7 ODS sites utilizing gas chromatography and mass spec detection can also qualitatively identify a broad list of VOC's. In 2015 nearly 15,000 river water samples were analyzed by the ODS. 2015 ODS monitoring did not find contaminates at or above the actionable threshold of 2 parts per billion. The ODS sites ran daily river water samples 91% of the time which compares well with previous years. The Pittsburgh Water site was offline in 2015 but will be reactivated in early 2016. ODS staff anticipate an increasing field service workload in 2016 due to in house coverage of all purge and trap instrumentation, GC FID units and GC process units. The ODS renovation grant terminates as of September 30, 2016. As a result, ORSANCO's 2nd Qtr FY17 ODS program cost will shift from program 345 back to state funded program 125.

In calendar year 2015, ORSANCO technical staff reviewed 619 spill reports from the National Response Center. 227 of the 619 received spill reports showed a potential risk to Ohio River water quality. Of these NRC spill reports with potential risk to Ohio River water quality "Unknown Oil" was the most common name given for the spilled material. Diesel was the second most common material name given. ORSANCO's Technical staff will continue 24 hour, weekly rotation of "Spills Duty", reviewing NRC reports and other relevant sources of information and providing notification to DW utilities and other stakeholders as appropriate.

## **Report of the NPDES Subcommittee**

Subcommittee Chairman Novak provided a report of the NPDES Subcommittee. The Subcommittee had a conference call on January 20, 2016 (five states were represented) to discuss the approved Pollution Control Standards (PCS) revisions, implementation of the Bioaccumulative Chemicals of Concern (BCCs) mixing zone elimination, tracking of mercury mixing zones, and availability of data for Ohio River mercury dischargers. The Subcommittee's discussion of the PCS changes adopted by the Commission in October 2015 centered on two main areas: 1) the addition of US EPA's aquatic life criteria for ammonia, and 2) the mixing zone prohibition for discharges containing BCCs. The Subcommittee raised a question regarding the process by which a discharger would use to demonstrate when mussels were absent.

Regarding the BCC mixing zone elimination, each state represented on the call reported on their approach to implement the Commission's BCC mixing zone prohibition. Illinois indicated discharges with an annual average mercury level greater than 12 ng/L must show best degree of treatment, good housekeeping measures and recovery of waste streams. Ohio and Indiana will use their existing streamlined variance processes. Pennsylvania had not yet adopted a specific policy, but would handle the issue on a case-by-case basis. Dischargers in West Virginia must develop a plan to meet 12 ng/L as a daily maximum.

In light of the changes to the Commission's standards, the Subcommittee discussed the need for a process to track the status of facilities with BCC mixing zones. The Subcommittee recommended that staff initially identify all NPDES permits with mercury limits over 12 ng/L. Staff would then follow-up with each state individually to review the status of facilities with mercury mixing zones.

The Subcommittee also discussed potential additional data sources that would be helpful in characterizing point source contributions to the mercury load in the Ohio River. There are potentially mercury point sources that do not routinely monitor for the pollutant. Permit applications were noted as a potential source of mercury data; however, these data are not typically in an electronic format and would require manual review of individual applications and data entry.

## **Pollution Control Standards Priorities and Schedule for 2018 Revision**

Staff reported on the priorities for possible revisions to the Commission's pollution control standards for the Ohio River for the review which will be completed by October, 2018. Priorities for possible standards revisions are as follows:

- Priority #1: Review of total mercury water quality criterion.
- Priority #2: Development of nutrients criteria.
- Priority #3: Review of E. coli criteria.
- Priority #4: Development of criteria for individual constituents of TDS.
- Priority #5: Review of radionuclide criteria.
- Priority #6: Development of chloride criterion for aquatic life protection.
- Priority #7: Development of additional metals translators.

In addition, the standards committee identified three additional items to consider, including development of frequency/duration values for all criteria, revision of the section on notification of upsets & bypasses to consider whether spills should be added to notification requirements and whether the section should

apply also to POTWs, and evaluation of all criteria not consistent with USEPA's national recommended criteria.

### **CSO Abatement Report**

Staff provided a report on the current status of the 49 Ohio River combined sewer overflow (CSO) communities, with details on each state and any changes from the previous year. There were 961 CSO's in 2015. Many communities appear to be making significant progress towards implementation of the nine minimum controls and only Pretreatment and Proper Operation and Maintenance fall below 90% implemented. All 49 CSO communities have submitted their LTCP and 12 LTCPs have not been approved by the state at this time. Staff also provided additional information regarding frequency of CSO bypasses for communities that had the data available. This was an informational item only.

### **Stormwater Abatement Report**

A presentation on the current status of storm water (MS4) communities along the Ohio River, with details on each state and any changes from the previous year was presented. There are 69 permitted MS4 communities/counties along the Ohio River. Louisville, KY is the only phase I community. The rest are Phase II. Indiana has 16 permittees, all are in compliance and there were no changes from the previous year. Kentucky has 11 permittees and 4 of them do not have 100% compliance. Paducah, KY reached full compliance this year. Ohio has 11 permittees, there were no changes from the previous year, and 2 permittees do not have 100% compliance. Pennsylvania has 20 permittees and all are in compliance. There were no changes from the previous year. Illinois does not have any MS4 communities along the river. West Virginia has 11 permittees and they monitor for nutrients and other parameters at each of the main outfalls. The outcome of this presentation was that very few changes had occurred from the previous year and that most of the MS4 communities are in compliance. This was an informational item only.

### **Draft 2016 Ohio River 305b Use Assessments**

Staff presented results of the 2016 draft water quality assessments for the Ohio River for aquatic life, public water supply, contact recreation, and fish consumption uses. The assessments are very similar to those of the previous 2014 report, the only change being a slight increase in the number of impaired miles for the contact recreation use based on bacteria data. The 2016 assessments cover the period 2010 through 2014. The assessment methodologies were developed by the ORSANCO 305b Workgroup made up of states' 305b/303d Coordinators and the following assessments are being recommended to TEC for approval. The entire river is assessed as fully supporting the aquatic life use and public water supply use. Almost 640 miles of the Ohio River is assessed as impaired, either partially supporting or not supporting the contact recreation used based on bacteria criteria violations. The entire river is assessed as impaired for fish consumption based on historic PCBs and dioxin data.

**ACTION:** Motion passed to approve the draft 2016 305b assessments.

## **Beyond Microbeads: Microplastics in 29 tributaries to the Great Lakes**

Austin Baldwin, USGS Wisconsin Science Center, presented a joint project of the USGS and Fredonia State University of New York, to characterize and quantify the contribution of plastics from streams to the Great Lakes from 29 tributaries. Sources of microplastics include cosmetics, personal care products, fibers from synthetic clothing, degraded litter, etc. Microplastics are observed in many marine and freshwater species, however the effects on aquatic life are not well understood at this time. They can also be a vector for other contaminants such as PCBs, PAHs, DDTs, pathogens, etc. The Microbead-Free Waters Act of 2015 is a federal regulation which prohibits rinse-off cosmetics containing microbeads, goes into effect July, 2017. Localized bans are in effect for polystyrene containers for certain parts of the US, and there are certain international bans or fees on plastic bags. There are currently no regulations on microfibers, the most ubiquitous of all microplastics.

The Great Lakes Restoration Initiative study of microplastics in 29 Great Lakes tributaries took place in 2014. Mr. Baldwin discussed the sample collection, processing and analytical methods used in the study. One hundred six plastic samples were categorized by particle size and concentrations in each of the 29 tributaries. Microplastics were present in every tributary sample to date (up to 32 particles/m<sup>3</sup>). Litter-related particles (fragments, foams, and films) were more common in more urban watersheds under storm flow conditions. Tributary concentrations were 10-1000 times greater than in the Great Lakes. Fibers dominate over all other particle types in tributaries (fibers were 53% of all sampled particles), and the occurrence of beads/pellets was rare (<2% of sampled particles).

## **Microplastic in urban streams: Abundance, movement, and microbial interactions**

Timothy Hoellein, Loyola University Chicago, presented on a joint project of Loyola University, Illinois Water Resources Center, the IL/IN Sea Grant, and the National Science Foundation. He started by saying that most of the microplastics research to date has been focused on the marine environment and organisms. The first project he discussed was the investigation of wastewater treatment plant effluents as a source of microplastics. Ten wastewater treatment plants in Illinois were included in the project in 2013. All were activated sludge plants while five also had tertiary sand beds. Four sets of surface water samples were collected upstream and downstream of the outfalls. Significantly higher concentrations of microplastics were found in the samples downstream of the wastewater treatment plant outfalls, predominantly composed of fibers and pellets used in personal care products.

He then discussed a project to characterize longitudinal patterns of microplastics along a two kilometer reach of the Chicago Canal. Conclusions of the study were that microplastics are mobile in surface waters, and they did not settle out into sediments over the 2 Km study reach. However, the fate of microplastics in sediments is unknown.

The next study discussed involved the investigation of plastic surfaces as a host for the collection of unique microbial flora. The unique characteristics of plastic are that surfaces are hard but also buoyant, and carbon polymers in plastics offer a food source for microbes. Conclusions from the study were that the microbes found on plastics were common to those able to decompose polymers and include plastic-degrading taxa, and that the microplastics support the persistence of pathogens more than natural surfaces.

The final project Dr. Hoellein discussed involved the ingestion of microplastics by fish and macroinvertebrates in fresh water. There are a number of potential physical and chemical toxicity mechanisms that could adversely affect aquatic life. A study was undertaken in Lake Erie to

enumerate the plastics in the guts of various fish and birds. More research is needed on this topic, however plastics were commonly found in the guts of fish and birds.

## **Member Updates and Interstate Water Quality Issues**

### ***Public Interest Advisory Committee (PIACO)***

Ms. Mallison reported that PIACO met on Tuesday. They discussed the issue of microplastics, as well as new communication updates including changes to the Commission's website.

### ***Pennsylvania***

Mr. Schwartz reported that PADEP has been doing a lot of work over the last several months in developing a plan for HABs response on the Ohio River in Pennsylvania. Much of this work is based on the learning experience from last year's event which did not affect the Pennsylvania portion of the river. He reported that PADEP has developed a regional guideline on implementing the mixing zone provision for bioaccumulative chemicals of concern (mercury) in NPDES permits. They will be including a permit condition to analyze for mercury, determine if it is above or below 0.012 ug/L, and have the permittee provide a plan and schedule to meet or approach the 0.012 ug/L criterion before the end of the permit cycle.

### ***Indiana***

Mr. Novak reported that the City of Evansville entered into a modification of their state/federal consent decree on CSOs which includes a long-term control plan and 25- year schedule to implement the projects. The level of control will include no more than four overflows in a typical year. He then discussed some impacts of the federal steam electric power generating effluent guidelines. Industry representatives in Indiana want additional time past the November, 2018 deadline to meet the effluent guidelines, and they are very concerned about the associated costs. He reported that some facilities are considering closing or converting to a different fuel source in lieu of meeting the costly requirements. He finally reported that the ALCOA Warrick facility has a smelting operation and associated power plant which will be closing.

### ***Virginia***

Ms. Davenport reported that VADEQ recently completed a triennial review of their water quality standards. It did not include the new federal ammonia criteria which may be implemented under a separate rulemaking after consideration of concerns by smaller wastewater utilities about costs and implementation issues. They received a challenge from the Shenandoah and Potomac River Keeper regarding how they assessed nuisance algae for recreational use impairment. As a result, USEPA Region 3 is convening an algae summit in April which may focus on assessment tools for identifying algae impairments. VADEQ has issued their first two permits regarding dewatering of coal ash impoundments complying with the new federal coal combustion residuals rule. They received over 1,100 comments on those permits.

### ***United States Army Corps of Engineers***

Mr. Emery reported that the Corps has been working with ORSANCO to improve communications and collaboration. A webinar is being scheduled between the Corps Ohio River districts water quality staff and ORSANCO to discuss cooperation between the various water quality programs between the respective agencies. The Huntington district staff met with WVDEP regarding training for Corps lock and dam operators on identifying and reporting future HABs events. They did receive a letter of support from ORSANCO regarding hydropower policies and dissolved oxygen monitoring to assist them with addressing Federal Energy Regulatory Commission (FERC) licensing issues.

## ***Illinois***

Commissioner Frevert reported that last summer Illinois adopted a nutrient loss reduction policy to address Gulf of Mexico hypoxia concerns. They are currently working on implementation issues related to that policy. He also reported that water quality standards for the Chicago Waterway were adopted after an eight year effort. Chloride criteria for the Chicago Waterway cannot be achieved due to winter deicing operations. As a result, there is a group effort underway by the various sources to develop a variance from this standard. It is anticipated that millions of dollars will be spent to obtain a variance from a standard that was understood to be unachievable.

## ***US Geological Survey***

Mr. Griffin reported that the Ohio Science Center is working with the Muskingum Water Conservancy District to install 14 river stage gauges which will also track temperature and specific conductance as a result of the increased oil and gas operations in the watershed. They would be used as an early warning system above reservoirs in the Muskingum watershed. They are also performing baseline water quality studies of six lakes within the Muskingum district to help detect any influences of future shale gas development. They will be sampling at thirty sites, six times per year over a two year period. The Indiana Science Center is working with the Corps Louisville District to install real-time HABs sensors on lakes. The number of Ohio River flow gauges has increased to six sites since his last report. Two of those sites, at Ironton and Olmsted, will include real-time water quality and nitrate sensors to determine what nutrients are entering and leaving the Kentucky boundary. At the same time, they are working with the Kentucky Farm Bureau's water management group to determine the nutrients contributions to the Ohio River from each of Kentucky's major watersheds. All of the Midwest science centers have come together to coordinate continuous nitrate monitoring on a regional basis.

## ***Kentucky***

Mr. Payne reported that KYDOW is currently reconstituting a volunteer lake monitoring program largely due to the more recent HABs occurrences in Kentucky. They will be collecting general water quality parameters, Secchi depth, and phosphate. The 2015 triennial review has been approved by the state legislature and will now be going to USEPA Region 4 for approval. The 2012 triennial review included revised narrative nutrient criteria and a selenium fish tissue criterion. These two provisions were not approved but have recently received a designation of "not likely to adversely affect" by the federal government. Their 2016 Integrated Report is underway which will primarily focus on updates to the Big Sandy River, Little Sandy River, and Kentucky River watersheds. They are in discussions with USEPA regarding potential development of a state-wide bacteria TMDL. Based on monitoring results which have identified increasing levels of methyl mercury in fish tissue, Kentucky is issuing more restrictive fish consumption advisories.

## ***Power Industry Advisory Committee***

Mr. Reash reported that the federal 316b rule is currently being implemented by utilities. Fish impingement will typically be addressed with the installation of special screens. Regarding the development of fish entrainment studies, the utilities would like a common study plan for the Ohio River to be accepted by all state agencies along the river. The steam electric effluent guidelines rules, which is in effect, requires achieving average effluent limits for mercury, selenium, arsenic and nitrate. A concern is the variability of FGD wastewater and the over-engineering that may be required to meet average limits due to this variability. Utilities are concerned about USEPA's proposal for revised selenium criterion, in which states that lack fish contaminants monitoring for selenium will utilize the proposed water quality criterion which is overly stringent. There is a consortium of Ohio River utilities which annually funds and conducts an ecological study on the Ohio River. This has been occurring since 1970. He invited anyone who may be interested to attend their March 10 meeting at Thomas More College.

### ***Water Users Advisory Committee***

Mr. Whitteberry reported that the Water Users Advisory Committee met on Jan. 27-28. They received a presentation from USEPA on bladder cancer risk from increased bromide levels in source water. The Ohio EPA presented on Ohio's new state regulation on HABs relating to drinking water utilities. The utilities discussed the 2015 Ohio River HABs event and how they responded to it. All utilities were able to effectively treat their source water. There were no finished water detections for microcystin at any utility. Use of powdered activated carbon was a common treatment method, as well as minimization of pre-oxidation treatment in order to minimize the release of the toxin microcystin from the microcystis algae. Increased coagulant, increase sludge removal, and elimination of filter backwash recycling were other methods used.

### ***Ohio***

Ms. Sherer reported that OEPA has worked with the Electric Power Research Institute (EPRI) to develop a study template for 3016b entrainment studies. They are also dealing with several issues related to third party users of intake waters covered under 316b. OEPA has met with most of the power companies in Ohio regarding implementation of the steam electric effluent limitations guidelines, and OEPA has provided them with what OEPA believes is a reasonable timeline for implementation. Ohio is currently modifying permits to implement orthophosphate monitoring requirements for its wastewater treatment plant discharges. They are also requiring technical and feasibility studies for wastewater facilities that do not already have total phosphorus effluent limits. OEPA is very close to having stream nutrient criteria reviewed by USEPA. Finally, Ms. Sherer reported that OEPA is anticipating receipt of permit applications soon from the proposed PTT Global Chemical's ethane cracker plant in Belmont County.

### ***US Coast Guard***

Lieutenant Commander Williammee reported that their district office is working to update MOU's with the USEPA Region's 3 and 5 regarding the Coast Guard's support to USEPA. Effective March 1, the Automatic Identification System (AIS) regulation goes into effect which will require most smaller commercial vessels operating in inland waters to begin "squawking". This will allow the USCG to monitor the locational history of these vessels, which may potentially assist them in investigating the source of mystery sheens.

### **FY17 Program Recommendations**

The following recommendations were made throughout the meeting and were summarized as follows:

#### ***Biological Programs***

- Conduct biological surveys in 3 pools in 2016.
- Consider additional projects in lieu of 4<sup>th</sup> pool as outlined below. Provide TEC with descriptions for each of the projects below:
  - Hydrilla effects
  - Water/sediment chemistry data at bio sites.
  - Revisit pools to evaluate index sensitivity/seasonal flow effects.
  - Targeted biological sampling.
  - Mussel surveys.
  - Impacts of microplastics.
  - Upstream extent of asian carp.
  - Resurvey pools having unusual biological results.
- Consider trends assessment for PCBs fish contaminants data.

### ***HABs/Nutrients***

- Consider adding dissolved reactive P to nutrients monitoring program.
- Distribute draft revised HABs Response & Communications plan to TEC for approval at June meeting.
- Consider sunlight and alkalinity in HABs data assessments.

### ***NPDES***

- Consider storm water permitting issues?
- Begin work to track implementation of ORSANCO's mixing zone policy.

### ***Standards***

- Eliminate write-in objective to investigate shale gas discharges.
- Consider HABs/HABs toxins in conjunction with nutrient criteria development.
- Look at human health and aquatic life issues together regarding chloride criteria.

### ***305b***

- Bring sampling plan and costs to update PCBs, dioxin and bacteria data back to TEC for June meeting.
- Consider broader issues with PCBs and dioxin in developing sampling program (sources, sediment-water column interactions, etc.)

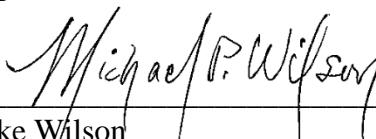
### **Next Meeting**

The next meeting of the Technical Committee will be held June 7-8, 2016, at the Sheraton Pittsburgh Hotel at Station Square, Pittsburgh, PA.

### **Adjournment**

The 210<sup>th</sup> meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 11:54 am on February 10, 2016.

Approved:

  
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Mike Wilson

Prepared by Jason Heath, P.E., BCEE with contributions from Steve Braun, Stacey Cochran, Sam Dinkins, Eben Hobbins, Travis Luncan, Jeff Thomas and Greg Youngstrom.

(Recording of proceedings available at Commission Headquarters)

PowerPoint presentations from this meeting are available on the Commission website at [www.orsanco.org](http://www.orsanco.org).

## **Roster of Attendance**

### ***Technical Committee***

Chairman	Commissioner Mike Wilson
Illinois	Not present
Indiana	Martha Clark Mettler
Kentucky	Randy Payne
New York	Not present
Ohio	Erin Sherer
Pennsylvania	Ron Schwartz
Virginia	Melanie Davenport
West Virginia	Not present
US Army Corps of Engineers	Erich Emery
US Coast Guard	Chris Williammee
US EPA	Not present
US Geological Survey	Mike Griffin
POTW Advisory Committee	Alex Novak
Power Industry Advisory Committee	Rob Reash
Public Interest Advisory Committee	Betsy Mallison
Water Users Advisory Committee	Bruce Whitteberry
ORSANCO Chief Engineer	Richard Harrison
Staff Liaison	Jason Heath

### ***Commissioners***

Stuart Bruny, Doug Conroe, Charles Duritsa, George Elmaraghy, David Flannery, Toby Frevert, Peter Goodmann, Kelly Heffner, Tiffani Kavalec, John Kupke, Ron Lovan, Ron Potesta, and Ross Wales (legal counsel).

### ***Staff***

Ryan Argo, Dave Bailey, Lisa Cochran, Stacey Cochran, Sam Dinkins, Tracey Edmonds, Joe Gilligan, Eben Hobbins, Jerry Schulte, Rob Tewes, Jeff Thomas, and Greg Youngstrom, and Lila Ziolkowski.

### ***Guests***

Austin Baldwin	USGS
Bill Boria	PIACO
Greg Boyer	SUNY
Cheri Budzynski	Shumaker, Loop & Kendrick
Rich Cogen	Ohio River Foundation
Jessica Dexter	Environmental Law & Policy Center
Albert Ettinger	Environmental Law & Policy Center
Herb Fredrickson	USEPA
Scott Hall	Ramboll Environ, Inc.
John Hirschfield	Axiall Corp.
Tim Hollien	Loyola University
Chris Impellitteri	USEPA
Joby Jackson	OEPA
Tim Joice	Kentucky Waterways Alliance
Joe Lapcevic	FirstEnergy Corp.
Paul Novak	NPDES Subcommittee Chairman
Dr. Randi Pokladnik	Ohio Valley Environmental Coalition
Martin Risch	USGS
Debora Roth	OEPA