

# OHIO RIVER VALLEY WATER SANITATION COMMISSION

**MINUTES**  
**209<sup>th</sup> Meeting of the Technical Committee**  
**Embassy Suites Buffalo**  
**Buffalo, NY**  
**October 6-7, 2015**

**Chairman Mike Wilson, Presiding**

**Call to Order**

The 209<sup>th</sup> meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Tuesday, October 6, 2015. Six states, two federal agencies, and four Commission advisory committees were represented (for Roster of Attendance see page 8).

**Minutes of 208<sup>th</sup> Committee Meeting**

**ACTION:** Motion passed to accept the minutes of the 208<sup>th</sup> Technical Committee meeting.

**Chief Engineer's Report**

Director Harrison provided an update on staff's efforts to develop a five-year supplemental program for the purpose of securing long-term funding for needed programs not funded under the current budget. This was a recommendation that came out of the last Program and Finance Committee meeting. Staff recently made a presentation to USEPA on one aspect of this program regarding HABs and source water protection. The supplemental program will be presented at a later date to the Commission and Program and Finance Committee, and it will also be included in the Congressional funding effort.

Director Harrison thanked the Corps of Engineers and Erich Emery for their efforts to organize and fund a flyover of the Ohio River for HABs surveillance, and the USEPA and Frank Borsuk for their assistance in HABs sampling in the upper Ohio River.

**Summer Ohio River Water Quality Conditions**

This presentation covered Ohio River water quality conditions during the 2015 field season. Precipitation patterns were dry in May, very wet in June and July, and then dry in August and September. This resulted in Ohio River flows that were much higher than normal in June and July, and then below normal in August and September. Flows in July were the highest July flows of the last thirty years. Total Phosphorus and Nitrogen concentrations were somewhat higher in March and July than during the previous ten years. There were five Total Mercury water quality criteria violations and eleven Total Iron water quality criteria violations since July 2014, while no individual monitoring station had more than one violation for either parameter over that period. Mercury BAF and tributary studies are underway. Bacteria criteria were exceeded in all six large urban areas monitored, while it should be noted that Huntington, WV had very few exceedances. There were very few exceedances of the dissolved oxygen criteria and no exceedances of temperature criteria.

Staff discussed biological sampling activities from the current field season. High flows in July delayed fish population surveys in the three probabilistic survey pools (Montgomery, Racine, and J.T. Myers) for three weeks, but all sampling was successfully completed. Draft pool assessments were completed for Montgomery and Racine to determine which pool would be completely revisited a second time in 2015 to help obtain an estimate of the precision of the fish index. Both pools were in fair condition, but Racine scored slightly lower and was therefore chosen for the re-survey in September. In addition to fish community surveys, each of the 15 randomly drawn sites in each of the three pools was also surveyed for instream habitat, macroinvertebrate communities, water chemistry (primarily nutrients) and had continuous dissolved oxygen/temperature sensors from June until October.

Other biological activities included sampling fish communities at all 18 river-wide fixed stations, collecting 39 composite fish tissue samples from throughout the river, and conducting mobile aquarium displays at 10 events throughout the basin. In addition, conductivity, temperature, and dissolved oxygen continuous data were collected at five dams during the course of the field season. Discussion followed resulting in the need to follow-up with Peter Goodman regarding his question about ORSANCO's data used in their 2014 assessment of fish tissue for mercury as well as exploring application of the Trophic State Index to the Ohio River [staff is following up with Kentucky on these two issues].

### **Fish Tissue Contaminants**

Committee members received the second version of the draft temporal trends in mercury in fish tissue report attached to their meeting agenda packets. Staff mentioned that the report should be considered draft pending comments received during an upcoming peer-review process related to submission to a scientific journal for publication. Comments received to date have been incorporated or addressed and have greatly assisted improving the document. Discussion followed involving concerns that one of the length standardization methods used in the report restricts the dataset to medium sized fish only, ignoring larger and smaller individuals. Staff agreed and mentioned that the other two methods used incorporate all size classes. In addition, at least one committee member approved of the proposed targeted journals for the manuscript (Environmental Monitoring and Assessment or Environmental Science and Policy).

### **Report of the Ad Hoc Committee on Mercury Studies**

Commissioner John Kupke, Chairman of the Ad Hoc Committee on Mercury Studies, gave a report of the committee. Following the June 2015 roundtable on mercury, the committee was formed to evaluate what is known about mercury in the Ohio River and to make recommendations to the Commission on what additional information is needed. Members of the committee include Commissioners, representatives from the states, Corps of Engineers, USEPA, USGS, power industry, and NGOs. The Committee initially met by conference call on September 21 and asked committee members to submit input on mercury information needs for the Ohio River. A second call will take place in November to prioritize those information needs. Staff will then compile an inventory of existing information regarding the prioritized information needs, report back to the Commission in February and to the Program and Finance Committee in April. The committee plans to develop initial recommendations to begin addressing the prioritized information needs at the June 2016 Commission meeting. There was a suggestion that TEC members should report on any mercury studies planned or underway by their organizations at the February TEC meeting.

### **Source Water Protection Programs**

Staff provided the committee members with an update on the ODS Renovation program, the operation of the ODS and an update on the spill response program. In response to enhancements made to the ODS through the ODS Renovation grant funding, 42% of Ohio River surface drinking water intakes participate in the Commission's Organics Detection System. Overall, the ODS is on track again to

process more than 5,000 surface water samples in 2015. The leading cause of "downtime" associated with the operation of the GCs in the ODS is staffing issues (sickness, vacation, no back up, etc.), followed by laboratory renovations/relocations, and instrument failure.

No unreported spills were detected by the ODS in 2015 (through August 31). During this same period, staff received and evaluated 460 spill reports, of which 164 reports had the potential to impact Ohio River water. Significant spill/release events that occurred in 2015 include the CSX derailment and Bakken crude oil release to the upper Kanawha River; a power plant fly ash release; a crude oil spill from a tank on a secondary or tertiary tributary to the Ohio; and the Harmful Algal bloom event.

Peter Goodman noted that the ODS system would be eligible to receive Safe Drinking Water Act set-aside funding from the states.

Staff is collaborating with representatives from USEPA, USACE, NWS, Greater Cincinnati Water Works, and the original designers of the ORSANCO spill model to improve the Commission's capabilities to predict time-of-travel of spill plumes. USEPA committed \$100,000 in FY15, with an anticipated additional \$100,000 in FY16, to develop an improved spill response decision support tool. Upgrading spill modeling capabilities was the first step in this process. The initial upgrades, which are now complete, include: 1) correcting minor bugs in the model, 2) improved model outputs for enhanced data sharing, 3) expanding the geographic extent of the model to include major tributaries, and 4) adding web-based capability to allow for remote operation of model. Staff provided a demonstration to the committee on the mechanics of operating the model, including setting up the model input files and the web access capabilities.

### **Bacteria Trends Assessment**

The Commission has routinely monitored bacteria levels in the six major combined sewer overflow communities (i.e. Pittsburgh, Wheeling, Huntington, Cincinnati, Louisville, and Evansville) since the early to mid 1990's. Since that time, municipalities have invested significant resources to reduce the amount of untreated sanitary wastewater that is discharged to the Ohio River and its tributaries. Staff presented a plan to the committee on efforts to conduct an assessment of this data set to evaluate possible trends in bacteria concentrations. This assessment will include: 1) evaluation of temporal trends in the six CSO communities, 2) comparison of upstream to downstream sites within CSO communities, 3) comparison to a previous fecal coliform trend assessment completed in 1983, and 4) evaluation of flow and precipitation to assess seasonality. The committee encouraged staff to reach out to the states and other researchers to request additional data and information that may enhance the trends assessment.

### **Overview of Summer 2015 Ohio River HABs Event**

Staff presented the ongoing efforts regarding the summer 2015 Ohio River Harmful Algal Bloom. A harmful algal bloom extended from near Wheeling, WV to Cannelton, IN (approximately 650 miles). The bloom was first reported at Pike Island L&D on August 19 and was still ongoing at the time of the Technical Committee meeting. ORSANCO has coordinated sampling with 6 States, 2 Federal agencies and several water treatment plants. Ohio, West Virginia and the Corps of Engineers provided aerial reconnaissance of the portions of the river. The bloom was made up of *Microcystis auregenosa*. The toxin microcystin was present at levels as high as 1,900 ug/L. Ohio, West Virginia, Kentucky, and Indiana issued contact recreation advisories while Illinois issued a precautionary statement. Two water treatment plants shut their Ohio River intakes for short periods to ensure they had the proper treatment in place before resuming pumping. Once the algal bloom passes, ORSANCO will prepare an "after action" report. This will involve a review and update of the draft HAB Monitoring and Response Plan, and an analysis of the available data to attempt to determine the cause of the bloom.

## **Webinar on Ohio River Source Water Protection, HABs, and Nutrients**

On September 24, ORSANCO staff made a webinar presentation to USEPA proposing a monitoring program for HABs within its Source Water Protection program. The proposal identified 3 goals of this monitoring:

- Goal 1: Develop a monitoring system that identifies and tracks algal blooms on the Ohio River and provides this data to state water managers and water utilities to allow treatment decisions to be made to maintain safe drinking water.
- Goal 2: Predict the occurrence of HABs on the Ohio River.
- Goal 3: Development of stressor-response relationships

In order to accomplish these goals, ORSANCO proposed a series of monitoring stations in each pool as well as at each of the major tributaries, along with the modeling needed to predict the occurrence of HABs and the development of a web portal to provide real-time access to the data. The anticipated total cost of this proposal was approximately \$3 million in capital costs and \$1 million in annual O&M.

## **The Occurrence of HABs in New York State**

Scott Kishbaugh, Chief of Lake Monitoring and Assessment Section, NYSDEC, presented on the occurrence of HABs in New York State. HABs have occurred historically in New York State. In 2014, there were 74 waterbodies with confirmed HABs and another nineteen waterbodies that were deemed “suspicious.” Of these, 75 were identified through formal monitoring programs and 18 reported by the public. Based on existing data, it is unclear if there is an increase or decrease in the occurrence of HABs in the state. There have only been a very few HABs on rivers in the state. Most of these reports have been non-toxic green algae species. However, rivers are not included in the HABs monitoring network and are less likely to generate reports from the public as they are used much less frequently for recreation than lakes.

Mr. Kishbaugh discussed the elements of the state’s HABs surveillance program. Goals of the program are to protect public health, document HABs problems, and determine the causes of HABs. Volunteer monitoring accounts for a significant portion of the states surveillance program. The Citizens Statewide Lake Assessment Program, which has a focus on eutrophication, monitored 125 lakes in 2015. Volunteers collect eight samples each season which are analyzed for Blue-green algae and toxins. Mr. Kishbaugh discussed the many platforms used in their public outreach and notification program, including web page, email ListServe, Facebook, Flickr, YouTube, Twitter, press releases, signage, and various written means.

Some of the unanswered research questions include: What is the definition of a bloom? What regulatory actions can be taken to prevent blooms? What are the best HABs screening methods? What management actions should be taken in response to HABs? Should there be restrictions on the use of algaecides for HABs management?

## **HABs – Next Steps: Monitoring, Health Impacts, and Other Considerations**

Dr. Greg Boyer, Professor of Biochemistry, SUNY College of Environmental Science and Forestry, made a presentation on monitoring for HABs and their impacts. He first discussed the different types of HABs and the toxins they produce. He then discussed the various visual observations of HABs, but that the only way to be sure a bloom is composed of cyanobacteria is by observing under a microscope. He then discussed some of the history of significant HABs that have occurred in rivers. He described the conditions that may result in HABs, including factors such as nutrients, light, warm temperatures, calm winds, and the presence of a seed population. The only one of these factors that can be controlled is nutrients. HABs most commonly occur in August and September.

He then discussed the various test methods to analyze for HABs, and reported that toxic microcystis can range from less than 10 percent to more than 95 percent of total microcystis. He indicated that microcystins are very abundant in New York, with about half the algae samples tested having the toxin, with ten percent at levels of concern. There have been no reported human deaths from HABs, although there have been reported illnesses. HABs present a human health concern in drinking water and from contact recreation. HABs can also deplete dissolved oxygen and produce fish kills. HABs tend to be buoyant; therefore surface sampling may be the best location to sample.

### **Report of the NPDES Subcommittee**

Subcommittee Chairman Novak provided a report of the NPDES Subcommittee. The subcommittee had a conference call on September 23, 2015 (five states and USEPA Regions 4 and 5 represented) to discuss proposed standards revisions, mercury variance requests, the status of NPDES permits on file with ORSANCO, and the status of the 316(b) rule and other rules affecting power plants.

Staff provided an update to the subcommittee on the proposed revisions to the Pollution Control Standards and the variance requests which the Commission was set to act upon at the October 2015 Commission meeting. The subcommittee was also briefed on efforts of staff to update the Commission's files to maintain current NPDES permits for all Ohio River discharges. Staff will follow up with each of the mainstem states to ensure the records are up to date. The role of ORSANCO regarding the coordination of 316(b) reviews was also discussed. Possible roles included providing comments on biological studies, serving as a clearing house for entrainment/impingement studies, and providing a forum for the states to discuss 316(b) issues through the NPDES Subcommittee.

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

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

Mr. Emery reported that the Corps will be requiring hydropower facilities located at their projects to conduct upstream and downstream dissolved oxygen monitoring and provide that data real time. He asked if ORSANCO might provide them with a letter indicating that ORSANCO supports the need for the Corps requirements. This would make it easier for the Corps to defend their requirement for this monitoring [authorized letter from ORSANCO has been provided to the Corps].

#### ***New York***

Mr. Konsella reported that one of the state's highest priorities is the abatement of CSOs and SSOs. In this regard, in 2004 the USEPA finalized an administrative order with the Buffalo Sewer Authority for a 20-year implementation plan for CSO control. A 20-year implementation schedule has been established which includes a mix of grey and green infrastructure projects. Control of collection system infiltration/inflow has been the primary method for SSO control for satellite communities within the Buffalo system. Within the Ohio River Basin, the City of Olean is under order with NYSDEC to increase their sewage treatment plant capacity by 50 percent due to chronic violations of their NPDES permit related to wet weather flows. This is scheduled to be completed in 2016. The City of Jamestown is also under orders to implement an infiltration/inflow reduction plan.

#### ***Ohio***

Ms. Sherer reported that OEPA has been recommending that water treatment facilities experiencing HABs discharge their filter backwash as opposed to sending it back to the head of the plant; however, this is creating some NPDES issues which the state is currently trying to work through. Regarding nutrients, OEPA is more aggressively pursuing optimization plans for its major sewage treatment plants in the Ohio Basin for the reduction of phosphorus, which should provide additional data and financial information which may be used to help develop future effluent limitations for Total Phosphorus. There is a newly proposed ethane cracker plant along the Ohio River in Belmont County,

Ohio, that is currently being evaluated by OEPA. A draft permit should be developed within about one year. OEPA continues to work on its coal general permit. They are in discussion with USEPA on the topic. Mr. Schwartz offered to share a recent PADEP permit for a similar facility with Ohio.

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

Mr. Whitteberry reported that water utilities have been consumed by HABs over the past couple of months. However, water utilities have been able to treat for it effectively by optimizing the coagulation process, adding PAC, and discontinuing recycling of filter backwash. Bruce noted that the USEPA is working on a plan for algal toxin risk assessment and management and questioned if their might be some role for ORSANCO in its development or implementation.

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

Mr. Reash reported that USEPA's coal-fired power plant effluent limits guidelines are set to be published in the federal register in the next couple of weeks. The industry anticipated phasing out of wet fly ash disposal but was surprised and disappointed to see the phasing out of wet bottom ash disposal, since bottom ash does not contain toxic materials. The required FGD effluent limits will require installation of biological treatment systems which cost in the range of \$30-\$40 million. Rob indicated he has been working on comments to USEPA's proposed selenium criteria.

#### ***Indiana***

Ms. Selvaratnam reported they are coming to a final agreement on the City of Evansville's consent decree regarding its CSO long-term control plan. IDEM is preparing to adopt the USEPA's recommended recreational criteria with the exception of a change to a 90-day averaging period.

#### ***Pennsylvania***

Mr. Schwartz reported that PADEP entered into a consent agreement with Horsehead to resolve permit violations which have resulted in their being listed in significant noncompliance. He reported that a new surface water intake to the Ohio River will be installed in Center Township in 2016. They have been working with Pittsburgh Water to resurrect the ODS location on the Allegheny River near its mouth. PADEP is very actively involved in developing the state's approach to implementing the federal clean power plan. He suggested that TEC may want to stay informed of how the air quality management programs may potentially affect Ohio River water quality in the future.

#### ***US Environmental Protection Agency***

Mr. Henry reported that while the Steam Electric Power Generation Effluent Guidelines have not yet been published in the Federal Register, the text of the regulation can be found on EPA's website at this time. He noted in August, USEPA released Case Studies on Implementing Low-Cost Modifications to Improve Nutrient Reduction at Waste Water Treatment Facilities. In August, a notice was published in the Federal Register updating six key areas of the federal water quality regulation. The six areas include the EPA Administrator's determination, changes in designated uses, triennial reviews, anti-degradation requirements, variances, and compliance schedules. Region 5 is working with its states on implementation of these changes.

#### ***West Virginia***

Mr. Mandirola reported that their water quality standards will be considered by the legislature this year. Proposed changes to the standards include a hardness-based limit for Aluminum, as well as the addition of criteria for Selenium in fish tissue (8.0 ug/g) and egg/ovary (15.8 ug/g). The water column criterion of 5 ug/L will be retained. In addition, an above ground storage tank rule will be considered by the legislature this year. The main issues with this rule are the zones of critical and peripheral concern. There has been a lot of activity with enforcement of pipeline regulations with the oil and gas industry. The WVDEP will also be working with the Bureau of Public Health on the HAB issue.

## ***Kentucky***

Mr. Payne reported that KYDOW is currently responding to comments regarding their 2015 water quality standards triennial review. The goal is to have the revised standards codified by the end of 2015. Significant updates to the regulation include changes to the selenium criteria, proposals for new Outstanding State Resource Waters due to new listed threatened and endangered species, as well as the addition of about a dozen new Exceptional Waters. HABs have been a big issue for the agency this year as well.

## **2016 305b Report**

Mr. Heath reported that the Ohio River 305b Coordinators met in June to establish the assessment methodologies for the 2016 report. The assessment methodologies will remain the same as for the 2014 report with a few exceptions. The 2016 report will cover the timeframe from January 2010 through December 2014. This will allow for inclusion of the newly developed macroinvertebrate index into aquatic life use assessments. Any discrepancies that may occur between aquatic life assessments based on fish data and aquatic life assessments based on macroinvertebrate data will be addressed by the 305b Coordinators Workgroup and the Biological Subcommittee.

## **Next Meeting**

The next meeting of the Technical Committee will be held February 9-10, 2016, at the Embassy Suites RiverCenter, Covington, Kentucky.

## **Adjournment**

The 209<sup>th</sup> meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 11:55 am on October 7, 2015.

Approved:



Mike Wilson

Prepared by Jason Heath, P.E., BCEE with contributions from Sam Dinkins, Jerry Schulte, 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                            | Shivi Selvaratnam        |
| Kentucky                           | Randy Payne              |
| New York                           | Jeff Konsella            |
| Ohio                               | Erin Sherer              |
| Pennsylvania                       | Ron Schwartz             |
| Virginia                           | Not present              |
| West Virginia                      | Scott Mandirola          |
| US Army Corps of Engineers         | Erich Emery              |
| US Coast Guard                     | Not present              |
| US EPA                             | Tim Henry                |
| US Geological Survey               | Not present              |
| 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, Tiffani Kavalec, John Kupke, Ron Lovan, Bruno Pigott, Ron Potesta, Ross Wales (legal counsel), Lou Wallace.

### ***Staff***

Dave Bailey, Lisa Cochran, Sam Dinkins, Joe Gilligan, Jerry Schulte, Jeff Thomas, and Greg Youngstrom.

### ***Guests***

|                  |                             |
|------------------|-----------------------------|
| Jackie Backus    | Ramboll Environ             |
| Bill Boria       | PIACO                       |
| Greg Boyer       | SUNY                        |
| Cheri Budzynski  | Shumaker, Loop & Kendrick   |
| Russell Dudek    | AK Steel Corp.              |
| Tom Easterly     | Retired                     |
| Angus Eaton      | NYSDEC                      |
| John Hirschfield | Axiall                      |
| Tim Joice        | Kentucky Waterways Alliance |
| Scott Kishbaugh  | NYSDEC                      |
| Joe Lapcevic     | FirstEnergy Corp.           |
| David Miracle    | AK Steel Corp.              |
| Paul Novak       | NPDES Subcommittee Chairman |
| Kevin Sheridan   | Westlake                    |
| Sara Smith       | SMG                         |