

OHIO RIVER VALLEY WATER SANITATION COMMISSION

Agenda Item 1 attachment
216th Technical Committee Meeting
February 7-8, 2018

MINUTES
215th Meeting of the Technical Committee
Sheraton Columbus Hotel at Capitol Square
Columbus, Ohio
October 3-4, 2017

Chairman Mike Wilson, Presiding

Call to Order

The 215th meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Tuesday, October 3, 2017. Seven states, two federal agencies, and four Commission advisory committees were represented (for Roster of Attendance see on page 13).

Minutes of 214th Committee Meeting

ACTION: Motion passed to accept the minutes of the 214th Technical Committee meeting.

Chief Engineer's Report

Director Harrison recognized Jeff Thomas' new position with the Electric Power Research Institute's water quality program and personally thanked him for his service to the Commission. He then reported that Ryan Argo has been promoted into the position of Biological Programs Technical Manager. He then reported that the monitoring component of the mercury project is currently being finalized, but that the project overall may suffer some delays due to recent staffing challenges. Staff is working with the water utilities in developing a broader, more holistic source water protection program that goes beyond ORSANCO's current involvement with the Organics Detection System and spill response activities. The expanded program might include working with utilities on source water protection plan development and contaminant source inventories. Director Harrison has begun reaching out to utilities to fund the program with some early successes towards developing a \$400,000 to \$500,000 annual program. He then reported that ORSANCO has become the fiscal sponsor for the Ohio River Basin Alliance (ORBA) and participated in a signing ceremony at their joint summit with the Ohio River Basin Consortium for Research and Education (ORBCRE) last week at Marshall University. As a fiscal sponsor, ORSANCO will manage the financial aspects of grants received by ORBA. In addition, ORSANCO's Water Resources Committee will be reactivated with the intent of working with ORBA to develop grant-funded project proposals. Broadly speaking, ORSANCO will be developing the water quality priorities for the Basin, and ORBA will utilize those priorities in other areas such as navigation, recreation, etc.

Summer 2017 Ohio River Water Quality Conditions

This presentation covered Ohio River water quality conditions during the 2017 field season. Precipitation and river flow conditions were above average from May through July river-wide. This wet trend came to an end in August with near normal rainfall and flows for the month. September saw below average flows for the upper half of the basin and near normal flows for the lower river. Frequency of exceedances for the monthly geometric mean bacteria criterion (i.e. 130 CFU/100) ranged from 17% in Cincinnati to 83% exceedance rate in Pittsburgh. Dissolved oxygen (DO) levels remained above 5.0 mg/L throughout the summer. Water temperatures consistently remained below the temperature criteria throughout the field season.

Mercury and iron concentrations exceeded the applicable water quality criteria less frequently in 2016-2017 than in the previous year. A year-long mercury sampling effort near Smithland Locks & Dam (ORM 912) will be completed in October 2017. Results from this effort will be used to calculate a total mercury mass-loading for the Ohio River.

Biological surveys (fish, macroinvertebrates, and submerged aquatic vegetation) were successfully completed at 15 sites within each of the three navigational pools scheduled for 2017 (New Cumberland, Meldahl, and Newburgh) and at the 18 fixed stations spread along the Ohio River. A total of 39 fish tissue samples were obtained via these surveys; results are pending. Continuous DO and temperature loggers were placed at each of probabilistic sites and at least two rounds of paired nutrients data (TKN, Nitrate-Nitrite, Total Phosphorus, Chlorophyll-a) were also collected for used towards nutrient criteria development. Additionally, instream and riparian habitat data were collected at each site for setting biotic index expectations. Lastly, ORSANCO staff completed 16 “Life Below the Waterline” aquarium displays throughout the basin.

Biological Programs Update

Staff provided an update on the 2016 probabilistic pools assessments for Willow Island, Greenup, and Cannelton pools. Complete assessments (fish and macroinvertebrate assessments) were presented to the TEC committee as pending Biological Water Quality Subcommittee (BWQSC) approval. Only the Cannelton Pool fish assessments were presented as delayed delivery of macroinvertebrate analyses precluded index calculations.

In lieu of completing a fourth pool assessment (in addition to those completed during the 2017 field season in New Cumberland, Meldahl, and Newburgh), the BWQSC ranked special surveys that repurposed those efforts to special surveys within each pool. Updates relating to three such special surveys were provided.

1. **Hydropower Impact Surveys** – Staff conducted electrofishing (and macroinvertebrate surveys as time allowed) in the vicinity of two planned (Allegheny L&D 2 and Montgomery L&D) and two existing hydropower facilities (Greenup L&D and Cannelton L&D). These surveys, as well as continuous and discrete measures of dissolved oxygen and temperature, will provide state and agency partners valuable information when determining the actual/potential instream effects of these installations.
2. **Ohio Tributary Temperature Regimes** – Staff deployed and retrieved continuous temperature loggers in lower portions of direct Ohio River tributaries on behalf of Ohio EPA. The data will provide OEPA with valuable data with which they can determine the most appropriate temperature standards for these unique areas.
3. **Direct Tributary Fish Surveys** – Staff conducted day-time electrofishing surveys of direct tributaries within each of the three pools. These surveys were conducted following state SOP’s when able. The surveys are necessary to fill a data gap that can often exist for these extreme lower portions of direct tributaries, between the main stem surveys of ORSANCO and those of individual states.

WV 604(b) Fish Tissue Project

To assist the West Virginia Department of Environmental Protection (WVDEP) in its fish consumption advisory program, pollution control planning, and Section 303(d) reporting responsibilities, ORSANCO proposed to coordinate collection and analysis of multiple contaminants of 84 target composite fish tissue samples (3-5 fish each) and methylmercury from 84 whole fish samples (3-5 fish each) from seven locations on the Kanawha and Monongahela rivers in West Virginia beginning in 2016 and completed in 2017. This study was conducted on behalf of, and under the oversight of, the WVDEP, with input from the Department of Natural Resources and the Department of Health and Human Resources. Multiple visits to each river were executed to ensure maximum potential for collection of 3 to 5 individuals for both edible portion and whole body analyses of each targeted species from each location.

Data collected provide a comprehensive assessment of edible fish tissue from these two rivers which experience heavy recreational use. The edible fish tissue portion of the data is for use by WV's Fish Consumption Advisory Committee to derive a comprehensive, multi-species examination of historic and current pollution effects on the fishery. Fish consumption advisories on these waters will be updated and information will be available to guide future water quality planning/management/pollution control policies. Whole body methylmercury analyses are intended to inform Section 303(d) listing decisions relative to mercury impairment and build local scientific information on whole body and edible tissue methylmercury ratios.

After final collection efforts were complete in May 2017, composites fewer than three fish were submitted to the contract laboratory to ensure that as many target species as possible were represented from each location. In total, 74 of the targeted 84 composite samples were collected; 53 of 60 from the Kanawha and 21 of 24 from the Monongahela. Fillet homogenates were analyzed for lipids content, polychlorinated biphenyls, (PCBs; aroclors), total mercury (TrHg), and methylmercury (MeHg). All fillet samples from locations 1-4 on the Kanawha River were also analyzed for dioxins (all congeners). Carcass homogenates were analyzed for MeHg only and used to determine whole-fish MeHg.

Over the course of the project, total electrofishing time on the Kanawha was ~31.3 hours and ~9.8 hours on the Monongahela.

Expenditures for the project came to within one percent of the total estimated budget. Although not all target species were encountered, more personnel and travel expenses were accrued expending additional effort to fill as many data gaps as possible within the proposed timeframe. A final report containing all analysis data, sample inventory, data and results summaries and budget summary were submitted to and approved by WVDEP in September 2017.

Source Water Protection Program Update

Staff provided an update to the committee on recent efforts related to source water protection. ORSANCO staff met with representatives from US EPA, Greater Cincinnati Water Works, Northern Kentucky Water District and Corona Environmental to evaluate the potential use of Corona's WaterSuite software to augment the utilities' source water protection efforts. An initial pilot project was developed from these discussions to complete a contaminant source inventory along the Ohio River upstream of the Greater Cincinnati area. The project will be jointly funded by US EPA and the water utilities.

Staff has also worked with West Virginia American Water Company (WVAC) to establish a new ODS site at the Kanawha Valley Water Treatment Plant on the Elk River in Charleston, WV. ORSANCO has provided pre-installation assistance and will train WVAC staff on the equipment operation and maintenance once installation has been completed later this year. All costs for the new monitoring station will be covered by the utility. This new site will enhance the current system by providing addition early warning detection and notification of releases that could impact downstream utilities.

Discussions with the Water Users Advisory Committee (WUAC) have continued regarding the next generation of the Organics Detection System (ODS). Some of the current equipment in use is already eight years old and, as such, this is a good time to begin the dialogue for future system needs and replacement schedule. The WUAC is establishing a workgroup to provide recommendations for the Commission to consider as this future planning process evolves.

Lastly, the Technical Committee was provided a handout of a draft Spill Response and Communications Plan which outlines ORSANCO's responsibilities and procedures in regards to spill notification on the Ohio River. The purpose of the document is to ensure that emergency response agencies and water utilities have a common understanding of ORSANCO's role in spill notification and response. The Technical Committee endorsed the plan as presented.

Monitoring Strategy

Staff, in conjunction with the Monitoring Strategy Subcommittee, is revising ORSANCO's Ohio River Water Quality Monitoring Strategy which was last updated in 2005. Four objectives of the revision are to: 1) Fulfill 106 grant requirements; 2) Obtain input from the states on their needs for each of our monitoring initiatives; 3) Consider different/better/more efficient/more informative ways of monitoring, and; 4) Lay out a plan to develop a GIS data base of all monitoring activities in the Ohio Basin. USEPA's 2003 Elements of a State Water Monitoring and Assessment Program is being used as a framework for the revision. There are unique challenges associated with monitoring great rivers such as the Ohio which will be addressed through the document. The methods by which all monitoring programs are currently being carried out will be reviewed to ensure that they are being carried out in the most efficient manner and generating the best data necessary for managing Ohio River water quality programs. Staff has provided the document to USEPA Region 5 and is currently waiting for comments, after which revisions will be made and then brought back to the Monitoring Strategy Subcommittee for review.

PFAS Project Proposal

Staff presented a proposed study of Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS). Due to contamination in the Parkersburg area of the Ohio River, other contaminated sites nationally, other studies focusing on the Ohio River, and USEPA's more recent release of health advisory levels for these contaminants, ORSANCO has recently received a number of inquiries regarding the current status of these compounds in the Ohio River. ORSANCO conducted a sampling effort in 2009 which included these compounds. Staff proposed to sample at a number of sites that were completed in 2009. The USEPA research facility in Cincinnati has offered to run the analyses for PFOA/PFOS at no cost to ORSANCO outside of the costs to collect the samples. TEC asked that staff develop a more detailed written sampling plan for consideration at the February, 2018 meeting.

2018 305(b) Assessment Work Plan

Staff presented a proposed schedule for the 2018 305(b) assessments for the Ohio River. The Ohio River 305(b) Coordinators are meeting on November 2 at ORSANCO's offices to review and agree on assessment methodologies for the 2018 report. All draft assessments are to be completed and reviewed by the 305(b) Coordinators prior to the end of the year, and the assessments will be brought to TEC for approval in February. After approval of the assessments, staff will complete a written report for TEC's approval in June. Staff does not expect that there will be any major changes from the 2016 report.

Bacteria Trends Assessment

Staff provided a summary of the Bacteria Trends Report which compares bacteria levels in the six major combined sewer overflow communities (i.e. Pittsburgh, Wheeling, Huntington, Cincinnati, Louisville, and Evansville) beginning in the 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 has undertaken a review of existing bacteria monitoring data to evaluate possible trends in bacteria concentrations over the past twenty years. This assessment includes: 1) evaluation of temporal trends in the six CSO communities; 2) comparison of upstream to downstream sites within CSO communities; and 3) evaluation of flow and precipitation to assess seasonality. Staff presented the preliminary findings of the assessment which includes:

1. The lowest bacteria concentrations among the six CSO communities sampled were found in Cincinnati and Huntington, while the highest levels were typically observed at the upper river sites (i.e. Pittsburgh and Wheeling).
2. Comparing upstream to downstream sites within CSO communities, the bacteria concentrations at the downstream sites were typically 2 to 4 times greater than the levels observed at sites on the upstream side of CSO communities with the exception at Pittsburgh.
3. Statistically significant decreasing trend over time was observed for bacteria levels in Pittsburgh and Huntington. The relationship of bacteria concentration over time was not statistically significant for the Wheeling, Cincinnati, or Louisville sampling locations.

4. Seasonally, bacteria levels are elevated in May, peak in June, and then steadily decline from July through October.
5. Bacteria concentrations steadily increase with flow and precipitation; however, a consistent pattern of decreasing median fecal coliform values by percentiles was seen over 2001-2015.

Staff will continue to evaluate the bacteria data to assess trends and will provide the Technical Committee a written report for review in 2018.

Harmful Algal Blooms

Staff presented an update on the HABs monitoring network during the 2017 field season. USEPA has been pursuing a RARE Grant for the analysis of the 2015 HAB event. The grant was partially funded in 2017 allowing EPA to start the database organization portion of the project. A new RARE Grant proposal will be submitted in 2018 and will be a joint submittal between Regions 3, 4 & 5.

In 2017 ORSANCO placed HAB monitors at Pike Island L&D and Meldahl L&D. ORSANCO assisted Marshall University in placing HAB monitors at R.C. Byrd L&D and Greenup L&D. No algal blooms were detected on the Ohio River in 2017. However, ORSANCO was alerted to 5 potential algal blooms:

- On 7/27/17 satellite imagery detected possible algal growth in the Parkersburg, WV area. Ground investigation did not identify any algae.
- On 7/30/17 a bloom was reported on Paint Lick Creek, KY. This was identified as *Euglena sanguinea*.
- On 8/30/17 Portsmouth Water detected microcystin in their raw water. No other indicators of algal activity were found. It is believed to be a result of cleaning their settling basin.
- On 9/20/17 Pike Island L&D reported possible Microcystis. An investigation revealed that it was duck weed.
- On 10/3/17 an algae bloom was reported on the Muskingum River. OEPA investigation found no impact to the Ohio River.

Staff also reported on a collaboration with the University of Cincinnati on a Senior Capstone Project. Three senior Environmental Engineering students will use data from the HAB datasondes to identify critical values, then display the data in real time on ORSANCO's website using a GIS platform.

Evaluating and Minimizing Cumulative Effects of Proposed Non-Federal Hydropower Development in the Upper Ohio River Basin Navigation System

Status of FERC Licensed Non-Federal Hydropower Projects

The US Army Corps of Engineers (Corps), Pittsburgh District owns and operates 23 navigation dams in the Upper Ohio River Basin, located on the Allegheny, Monongahela, and Ohio Rivers. Currently there are five Federal Energy and Regulatory Commission (FERC) licensed non-federal hydropower projects in operation at District navigation dams; four on the Allegheny River and one on the Ohio River.

In 2017, the FERC granted licenses for non-Federal Hydropower development at eleven navigation dams, and licenses are pending at 6 additional dams, for a total of 17 potential new projects. If all of these projects were constructed, there would be 22 hydropower projects in the District navigation system, located at every navigation dam, with exception of two dams on the Monongahela River, one of which is slated for removal. Similarly, in the early 1980's there was extensive interest in nonfederal hydropower development in the District navigation system. At that time, FERC issued licenses for development at five dams (now operational) and licenses were pending at 14 additional dams, for a total of 19 potential new projects.

Licensing Process

As authorized by the Federal Power Act, FERC has the “...exclusive authority to license most nonfederal hydropower projects located on navigable waterways or federal lands, or connected to the interstate electric grid.” FERC is also responsible for compliance with the National Environmental Policy Act (NEPA) for licensed projects. The Final Environmental Assessment, which usually supports a Finding of No Significant Impact, provides the basis for License requirements.

In accordance with a 2016 Memorandum of Understanding between the USACE and the FERC, “The Corps can allow the development of hydropower by non-Federal entities at suitable (Corps) projects, provided that the installation and operation of the hydropower facility is found to be compatible with the purposes for which Congress authorized the project and would not be injurious to the public interest ...”. The Corps provides technical information, reviews, and comments throughout the licensing process for all proposed hydropower projects located at Corps facilities. In addition, the license includes requirements for District/FERC approval of various plans and memorandums of agreement between District and the licensee and the design and implementation of an interagency water quality monitoring plan prior to construction and operation.

The Corps also conducts an independent review of the proposed hydropower projects prior to construction in accordance with Section 14 Rivers and Harbors Act of 1889, codified in 33 U.S.C 408 (Section 408). The Section 408 review is a NEPA-like process conducted to assure protection of structures at Corps facilities and their operations and authorized purposes. All hydropower projects require a Section 408 Permission document approved by the Corps.

District Concerns Regarding Impacts of Stacked Hydropower Development

Because development is possible at almost every navigation dam in the District and also because the FERC prepared independent Environmental Assessments (EAs) for each of the 11 new licenses for proposed projects rather than a system-wide environmental assessment, the District has concerns regarding the potential for cumulative system losses and degradation of aquatic resources with stacked development. More specifically, construction and operation of stacked hydropower projects could result in the loss or reduction of aeration provided by dams, lower downstream dissolved oxygen levels, and the loss/ degradation of aquatic life and habitat.

1988 Federal Environmental Impact Statement

In 1988, with similar interest in hydropower development in the upper Ohio River Basin navigation system, FERC prepared an environmental impact statement entitled, “FERC 1988 Final Environmental Impact Statement for Hydropower Development in the Upper Ohio River Basin (FEIS),” which the District believes adequately addresses system-wide cumulative impacts. Therefore, until a cumulative system assessment is conducted, the District recommends implementation of the conditions of FERC’s 1988 FEIS preferred alternative.

Adaptive Management

The District utilizes an adaptive management, system approach for the operation of non-federal hydropower projects at their facilities. Adaptive Management Plans (AMP) are required by the District for the operation of non-federal hydropower projects to address non-degradation and are generally developed during the 408 Review. If determined practical, conditions recommended in the FEIS will be incorporated into the AMP for the operation of all non-federal hydropower projects located in the District navigation system. Examples include maintenance of existing dissolved oxygen conditions downstream from hydropower projects (minimum 6.5 mg/L); continuous, real-time, water quality monitoring; no net loss of in-kind habitat value; monitoring to determine rates of fish impingement and entrainment-related mortality; construction and testing of engineering prototypes of fish guidance systems to minimize fish entrainment; etc.

Conclusion

The District encourages and welcomes input from state and federal resource agencies and the Commission in the development of the AMP for the operation of the hydropower projects in Upper Ohio River Navigation System. Recommendations for assessment of aquatic life and habitat necessary to protect and sustain existing aquatic resources throughout the navigation system with development would be particularly beneficial. Examples could include periodic biotic monitoring and assessment (fish, mussels, habitat); fish impingement and entrainment studies; fish passage studies; etc.

Current and Potential Future Bromide Loads from Coal-Fired Power Plants in the Allegheny River Basin and Their Effects on Downstream Concentrations

Jeanne VanBriesen, Professor with Carnegie Mellon University, presented on the following topic. Bromide is an inorganic constituent that is typically present at low concentrations in natural waters. It does not affect ecosystems or present a human health risk. However, elevated concentrations of bromide in drinking water sources can lead to difficulty meeting drinking water disinfection byproduct (DBP) regulations because bromide increases the formation of DBPs and increases DBP bromine fraction. Brominated DBPs are more toxic than chlorinated DBPs, thus, the presence of bromide in source waters increases the risk associated with drinking water.

Recent attention has focused on bromide-containing wastewater discharges from oil and gas produced water, and from coal-fired power plants operating wet flue gas desulfurization (FGD) systems. Bromide is naturally present in coal and captured in the wastewater of wet FGD systems; it can also be added to coal to enhance mercury removal at coal-fired power plants.

Since bromide is not regulated or monitored in most wastewater discharges, determining the role of different sources is difficult. To address this gap, our analysis utilized bromide-monitoring data in the Allegheny River and a mass balance approach to elucidate bromide contributions from anthropogenic and natural sources under current and future scenarios. For the Allegheny River, current bromide is approximately 49% associated with oil and gas produced water discharges and 33% associated with coal-fired power plants operating wet FGD, with 18% contributed from background sources during mean flow conditions in August. If all four power plants operating wet FGD implemented bromide addition for mercury control, median wet FGD bromide loads could increase by threefold from 610 kg/day to 1900 kg/day. Median bromide concentrations in the lower Allegheny River in August would rise to 410, 200, and 180 µg/L under low, mean, and high flow conditions, respectively, for the bromide addition scenario.

Despite its importance on downstream drinking water DBP formation, bromide was not included as a regulated constituent in the 2015 steam electric effluent limitations guidelines and standards (ELGs) since an EPA analysis based on a geographic 5-mile buffer suggested few drinking water facilities would be affected by bromide discharges from power plants. Since bromide is conservative, its concentration at downstream locations is governed by the magnitude of the upstream discharges and the dilution capacity of the receiving water, not by geographic proximity. Our analysis used watershed approach to identify Pennsylvania drinking water intakes downstream of wet FGD discharges and to assess the potential for bromide discharge effects. Twenty-two (22) public drinking water systems serving 2.5 million people were identified as being downstream of at least one wet FGD discharge, which was significantly more than the 110,000 people the EPA analysis identified as potentially affected. During mean August conditions (generally low-flow, minimal dilution) in receiving rivers, the median predicted bromide concentrations contributed by wet FGD at Pennsylvania intake locations ranged from 5.2 to 62 µg/L for the Base scenario (including only natural bromide in coal) and 16 to 190 µg/L for the Bromide Addition scenario (natural plus added bromide for mercury control).

Power plants with wet FGD and oil and gas produced water treatment facilities with surface discharges contribute to bromide concentrations in surface waters. Bromide addition for mercury control could represent a significant challenge for downstream drinking water plants. Spatiotemporal context matters. Dilution may be insufficient to protect downstream drinking water plants as bromide load increases, especially under low-flow conditions.

Mercury speciation and bioavailability in power plant waste streams and ambient Ohio River samples: Final results

Rob Reash with American Electric Power presented on the following topic. The objective of this study was to evaluate the relative contribution of various mercury forms (species) in water samples collected at power plant wastewater and ambient (background) Ohio River locations. For all states bordering the Ohio River mercury from point-source discharges is regulated as total mercury. While this “total” analysis is convenient for analysis and reporting purposes, it ignores considerations of speciation and bioavailability. Studies conducted by both ORSANCO and AEP have indicated that the predominant bioaccumulative form of mercury (methylmercury, or MeHg) represents, typically, less than 5% of total mercury in water samples collected at Ohio River and tributary locations.

In this study the fraction of bioavailable mercury was defined as the sum of MeHg and inorganic “reactive” mercury (I-RHg) relative to total mercury. The I-RHg fraction represents the portion of total mercury that, under favorable environment conditions, could be reduced to MeHg via microbial activity.

Samples were collected at power plant discharges (most influenced by flue gas desulfurization wastewater or leachate streams), mixing zone locations (artificial 1:1 mix of discharge and receiving stream water), and ambient locations. The percent of “bioavailable” mercury was less than 30% for all sample categories and the percent of MeHg as total mercury was less than 3% for all locations.

The results of this study indicated that, at least for the locations sampled, only a small fraction of total mercury is considered bioavailable. These results have permitting implications. As many non-mercury metals can be regulated using the dissolved fraction of the total metal, the regulation of “bioavailable” mercury can be regulated likewise. The regulation of total mercury only may not result in desired environmental benefits (reduced levels of mercury in fish tissue), and wastewater treatment costs, at least in part, could be unnecessary.

Member Updates and Interstate Water Quality Issues

United States Geological Survey

Scott Morlock reported that the USGS has merged its Indiana, Kentucky and Ohio Science Centers. This will facilitate increased science capabilities for the Ohio River Basin, as well as providing for a more resilient budget program as well as increased efficiencies. USGS real-time data collected at the Louisville Water Tower is under review and should be available soon. A real-time “super gage” installed on the Ohio River at Ironton, OH will be discontinued on April 15 if additional funding is not secured, and anyone interested should contact Mike Griffin. Another real-time gage on the Green River at Spottsville, KY will also be discontinued on April 15 without additional funding. The Indiana and Kentucky Science Centers will be holding their cooperators meetings where results of cooperators’ projects are presented. A “super gage” on the Wabash River at New Harmony is desired and the USGS is seeking additional funding partners for that effort. The USGS budget is currently operating under a continuing resolution, and USGS Headquarters is undergoing a restructuring initiative.

Watershed Organizations Advisory Committee

Kristy Meyer reported that there are three TransCanada-Columbia pipeline projects are nearing approval by the Federal Energy Regulatory Commission. The Ohio Valley Environmental Coalition believes that all three projects will heavily impact the Ohio River and tributaries, with all projects crossing under the Ohio River or tributaries, sometimes at multiple locations.

Indiana

Eileen Hack reported that IDEM is proceeding with a second notice for rulemaking to update its water quality criteria for metals. Paul Novak reported that the NPDES permit for ALCOA in southwest Indiana is due for renewal in 2018. ALCOA has announced that they will be restarting some aluminum smelter lines in 2018. They have completed a 316a study which will be submitted with the renewal application. Vectren's Brown and Culley power plants' permits were renewed this year. The company plans to close both plants by 2023. The Indiana-Kentucky Electric Corporation Clifty Creek power plant's 316a study is due in July 2018 and the 316b application reports are due in January 2018. The Evansville WWTPs permits have both been renewed with total phosphorus limits of 1 mg/L, so the city will be implementing projects to meet those requirements. Evansville is beginning to implement the major projects scheduled in their CSO long term control plan. The City of Jeffersonville has requested an amendment to their consent decree regarding the CSO long term control plan to reconsider proposed projects and schedules due to cost concerns. The City's wastewater treatment facility has a compliance schedule to meet a total phosphorus 1 mg/L permit limit.

Pennsylvania

Dana Drake reported that PADEP is preparing to move forward with its water quality standards proposed rulemaking. Major proposals include adoption of revised ammonia criteria for aquatic life, E. coli criteria for contact recreation, and revised human health criteria for toxic substances. Three hearings will be held in December. The Shell Petrochemical NPDES permit was issued in July and it has not been appealed. The state-wide municipal separate storm sewer system (MS4) general permit has been updated, which now requires a pollution reduction plan for those systems located in siltation and nutrient impaired waters. The state has been sued for inaction on overdue NPDES permits for several coal-fired electric power plants. ALCOSAN's consent decree for its CSO long term control plan is being amended to extend its compliance schedule from 2026 to 2034. ALCOSAN is moving ahead on its wastewater treatment plant expansion which will increase its handling of peak loads to 600 MGD. A Notice of Violation has been issued to the property owner of a facility in Aliquippa for an ongoing discharge of fuel to the Ohio River due to past contamination on the site.

Kentucky

Katie McKone reported that Kentucky is preparing for its 2018 Triennial Review of water quality standards. Items under consideration for revision include:

- Human Health 304(a) criteria and conducting assessment of regulatory and economic impacts.
- EPA updated body weight, drinking water consumption rate, fish consumption rate, bioaccumulation factors, relative source contributions, and resulting health toxicity values for 94 pollutants.
 - Proposing to use EPA default values for all inputs except fish consumption rate (use inland South value or KY specific value).
 - Project underway to examine impacts of new limits on facilities.
- Cadmium Aquatic Life Criterion
 - EPA's updated criteria reflect new aquatic cadmium toxicity literature from 2001 to 2016 and updated hardness slopes.
 - Propose to use EPA's criteria equations except express them in terms of total recovered cadmium instead of dissolved.
 - Project underway to examine impacts of new limits on facilities.
- Ammonia Aquatic Life Criteria
 - EPA updated criteria reflect new aquatic ammonia toxicity literature from 1985 to 2012, which includes data for mussel species.
 - Propose to adopt EPA's acute cold water, acute warm water and chronic criteria.
 - Project underway to examine impacts of new limits on facilities.
- Copper Aquatic Life Criteria
 - EPA updated biotic ligand model (BLM) in 2003 with further revisions in 2007.
 - Propose to keep current hardness-based copper criteria but allow site specific criteria using the copper BLM.
 - Carbaryl - Propose to adopt EPA's 2012 criteria which was released in 2012.

- Microcystins and Cylindrospermopsin Contact Recreation Criteria
 - EPA published draft recommended values in 2015.
 - Propose to continue issuing advisories as opposed to developing state WQC.
 - Will examine KY advisory levels to see if updates are needed.
- Wet Weather Standards
 - Propose to allow wet weather variances or exceptions for combined sewer overflows.
 - Project underway to examine other state's wet weather standards.
 - Looking at various options for considering wet weather flows on compliance and assessment (e.g. UAAs for CSO receiving waters)
- Zinc Biotic Ligand Model (BLM)
 - Propose to keep current zinc criteria but allow site specific criteria using a zinc BLM.
- Outstanding State Resource Waters
 - KY Arrow Darter Federally Threatened & Endangered Species.
 - Drafting supporting documentation for adding OSRWs, Special Waters; changes due to National Hydrography Dataset changes.
- Selenium - will remove the egg/ovary number as it was not approved by EPA.
- Language clarifications regarding OSRW qualifying; other language clarifications

2017 HAB Summary

- The Boltz 2016 HAB advisory was not removed until June 2017. Sample results were above advisory levels throughout the winter for cylindrospermopsin, even though the water did not appear to have a bloom. They responded to potential HAB reports or that were identified through remote sensing. However, no advisories have been issued in 2017.

Kentucky Monitoring Strategy – they are making changes to gain more power from data collection and serve priorities.

CSO communities are implementing LTCPs, and some are moving to post-construction monitoring and permits. They are considering what post-construction permits should look like, especially regarding municipalities that have residual CSOs.

KPDES municipal permits - all municipals now have inflow and effluent monitoring for nutrients, some have WET requirements, and some have technology-based limits.

Assessment Related Topics

- 2016 303(d) list comment period concluded has concluded and they are responding to comments now. They are starting to write the 2016 Integrated Report which should be out by the end of the year.
- ATTAINS – KY is making its own assessment database called KATTS, which is more of an assessment module and will talk nicely with EPA's ATTAINS.

Power Industry Advisory Committee

Mr. Reash reported that companies are moving forward with entrainment characterization studies required under the 316b rule (requires protection of fish and shellfish from lethality at cooling water intake structures). These studies address the movement of fish, eggs, and larvae through a condenser cooling system. These studies will be submitted to the state agencies. There is some ongoing litigation under this rule in federal court. The Steam Electric Power Effluent Guidelines rule is currently uncertain. The date for compliance with the rule has been extended to 2020. The Waters of the US rule is currently under review by the USEPA and Corps of Engineers. While many states are conducting reviews of their standards, in particular for selenium, national utility groups are working on flow charts for implementation of the new selenium criteria which will be sent to USEPA.

Public Information Advisory Committee (PIACO)

Betsy Mallison reported that PIACO met by conference call on September 21. They made a number of recommendations for ORSANCO's communications program, including exploring options for developing a funding sponsorship program for the mobile aquarium. They also made recommendation regarding use of GIS and story maps to enhance ORSANCO's website and social media outreach.

United States Army Corps of Engineers

Eric Emery reported that there were almost no HABs occurrences in Corps' reservoirs in the Ohio Basin this year. He reported that the Corps' climate change report has been released. They are working with the University of Cincinnati on remote sensing for HABs detection to publish algorithms for using satellite data to determine levels phycocyanin, chlorophyll a, and turbidity. They are developing a proposal for NASA to design and launch low orbit satellites equipped with hyperspectral sensors for improved spatial and temporal coverage at higher resolution for HABs detection. Finally, he reported that they are working on a project to make all of the Corps' water quality data available to the public on a website.

West Virginia

Scott Mandirola reported that development of natural gas pipelines are currently consuming much of his agency's time. Both the Mountain Valley Pipeline and the Atlantic Coast Pipeline begin in the northern part of the state and extend into Virginia. They issued a cease and desist action to Rover Pipeline concerning construction site storm water runoff problems which have now been corrected. They are currently reviewing their 401 water quality certification for the Mountain Valley Pipeline concerning issues raised in an appeal. They issued a permit to M&G Polymers containing limits for 1,4-Dioxane based on the USEPA's drinking water advisory level because it was being detected at certain downstream water utilities. The company has appealed the permit, however there are some reports that the company may close the facility. They are in the process of reissuing the Mountain State Carbon and DuPont permits. They have completed an Aquatic Life Assessment protocol asked for by the legislature which combines the macroinvertebrate assessment with a fish protocol to provide for a more comprehensive assessment of aquatic life use impairment decisions.

Water Users Advisory Committee

Bruce Whitteberry reported that the committee met in late September, and that HABs have not been a concern for utilities this year. Ohio River water quality conditions have been good and there have been no major spills. Steve Algier with the USEPA provided the committee with an update on the WaterSuite pilot project for the development of a contaminant source inventory for the Cincinnati and Northern Kentucky intakes. The committee is forming a workgroup, led by Rengao Song of the Louisville Water Company, to begin an evaluation of the next generation Organics Detection System. A scope of work for this effort is being developed. He finally remarked that the committee continues to follow the 1,4-dioxane issue previously reported by Mr. Mandirola.

USEPA Region 5

Linda Holst with USEPA Region 5 reported that headquarters hosted two webinars on the draft proposal for updated aquatic life criteria for aluminum. She recently attended a National Water Division Directors meeting where the issue of developing national recommended human health criteria for PFOA/PFOs was discussed. USEPA currently does not have plans for developing criteria for PFOA/PFOS, but if states are interested in this, they may make a request, preferably through the Environmental Council of the States (ECOS) or the Association of Clean Water Administrators (ACWA). Region 5 has approved Ohio's 2016 303(d) list but they are still reviewing Illinois' and Indiana's lists. They have received and addressed comments on the Ohio River bacteria TMDL and will be sharing a revised report shortly.

Ohio

Audrey Rush, Manager of Standards and Technical Support, Division of Surface Water, Ohio EPA gave a report on behalf of Erin Sherer. She replaces Dan Dudley who is retiring at the end of 2017. OEPA is entering their Interested Party Review to consider updates to eleven aquatic life criteria, including cadmium, copper, ammonia, selenium and carbaryl. The Director is due to sign an amendment to the Ohio River Basin Water Quality Trading Agreement between Indiana, Kentucky and Ohio. They are currently working on a long-term control plan for Steubenville, and with Ironton on a CSO reduction plan. They are working to designate approximately 60,000 miles of streams with an appropriate tiered aquatic life use. They are also evaluating metrics for their cold water habitat use designations. The Nutrients Mass Balance Project will be updated in 2018 including the addition of the Huron watershed. Legislation has been passed requiring monitoring total phosphorus for all major wastewater treatment facilities in the state.

Adjournment

The 215th meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 11:30 am on Wednesday, October 4, 2017.

Approved:



Mike Wilson

Prepared by Jason Heath, P.E., BCEE with contributions from Ryan Argo, Sam Dinkins, Stacey Cochran and Rob Tewes.

(Recording of proceedings available at Commission Headquarters)

PowerPoint presentations from this meeting are available on the Commission website at www.orsanco.org.

Roster of Attendance

Technical Committee

Chairman	Commissioner Mike Wilson
Indiana	Eileen Hack
Kentucky	Katie McKone
New York	Jeff Konsella
Ohio	Erin Sherer
Pennsylvania	Dana Drake
Virginia	Not present
West Virginia	Scott Mandirola
US Army Corps of Engineers	Erich Emery
US Coast Guard	Not present
US Environmental Protection Agency	Linda Holst
US Geological Survey	Scott Morlock
Power Industry Advisory Committee	Rob Reash
Public Interest Advisory Committee	Betsy Mallison
Water Users Advisory Committee	Bruce Whitteberry
Watershed Organizations Advisory Committee	Kristy Meyer (for Rich Cogen)
ORSANCO Chief Engineer	Richard Harrison
Staff Liaison	Jason Heath

Commissioners/Proxies

Stuart Bruny, Craig Butler, Charles Duritsa, George Elmaraghy, David Flannery, Toby Frevert, Peter Goodman, Aaron Herzig (legal counsel), John Hoopingarner, Tiffani Kavalec, John Kupke, Ron Lovan, Scott Mandirola, Bruno Pigott, Ron Potesta, and Mike Wilson.

Staff

Ryan Argo, Dave Bailey, Lisa Cochran, Stacey Cochran, Sam Dinkins, Joe Gilligan, Richard Harrison, Jason Heath, Rob Tewes, and Greg Youngstrom.

Guests

Cheri Budzynski	Shumaker, Loop & Kendrick
Paul Novak	IDEM (NPDES Subcommittee Chairman)
Eric Nygaard	Ohio EPA
Audrey Rush	Ohio EPA
Rose Riley	USACE
Harry Stone	Ohio River Basin Alliance
Jeff Thomas	EPRI
Jeanne VanBriesen	Carnegie Mellon University
Ashley Ward	Ohio EPA