

OHIO RIVER VALLEY WATER SANITATION COMMISSION

MINUTES
211th Meeting of the Technical Committee
Sheraton Pittsburgh Hotel at Station Square
Pittsburgh, PA
June 7-8, 2016

Chairman Mike Wilson, Presiding

Call to Order

The 211th meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Tuesday, June 7, 2016. All eight states, two federal agencies, and four Commission advisory committees were represented (for Roster of Attendance see page 13).

Minutes of 210th Committee Meeting

ACTION: Motion passed to accept the minutes of the 210th Technical Committee meeting.

Chief Engineer's Report

Director Harrison remarked that Jerry Schulte is retiring and that he will be greatly missed by all the staff. He reported that staff has been working on a five-year projection of finances and a sustainable funding plan. In addition, staff has developed a set of potential future programs which may be utilized when seeking future outside funding opportunities. He discussed the set of potential future programs as follows:

- Organics Detection System maintenance and replacement
- Harmful algal bloom monitoring network
- Mercury-related projects
- Monitoring for the National Rivers and Streams Assessment
- Updating dioxin and PCBs data for 305b assessments
- Updating bacteria monitoring data for 305b assessments
- Enhanced biological pool surveys
- Emerging contaminants baseline study
- Expanded Bimonthly and Clean Metals monitoring
- Remote sensing applications
- Discharge data management and modeling system
- Water resources initiative
- Fish consumption study
- Mussel surveys and development of mussel index
- Upgrade mobile lab
- Enhanced public outreach programs

2016 Ohio River Biennial Assessment (305b Report)

Consideration of Draft 2016 305b Report

Staff presented a summary of the 2016 assessments and methodologies utilized in making those assessments that were recommended by the Technical Committee and approved by the Commission at the February 2016 meetings. The draft report then containing those assessments was included in the advance agenda package. The draft report was reviewed by the 305b Workgroup and their comments incorporated into the draft. Staff indicated that a recommendation from the Technical Committee would be needed for approval of the report.

ACTION: Motion passed to accept the report and recommend its approval to the Commission.

Future Monitoring Needs to Update 305b Assessments for Dioxin, PCBs, and Bacteria

The dioxin, PCBs, and bacteria data sets used for the Ohio River 305b assessment have become dated and no new sampling is scheduled as part of the Commission's ongoing monitoring programs. The Technical Committee, at its February 2016 meeting, directed staff to develop work plans and corresponding budgets to collect the data necessary to keep the assessments current for these pollutants. Staff presented two work plans with corresponding budgets. The first combines monitoring for dioxin and PCBs into a single effort as the sampling methods for the two legacy pollutants are identical. The second work plan is to update the longitudinal bacteria data set.

Dioxin and PCBs Work Plan and Budget

Staff reported that extensive water quality monitoring for dioxin and PCBs was conducted from 1997 to 2003. A minimum of three high-volume water samples were collected at sites approximately every 50 miles along the entire length of the Ohio River. Concentrations for both pollutants ranged from one to two orders of magnitude above their respective ambient water quality standards.

Staff proposed an effort to update the dioxin and PCB data sets which entails collecting two rounds of samples at five sites evenly spaced longitudinally along the river (i.e. approximately every 200 miles). One round would be completed during lower stream flow conditions and one during a higher flow period.

The proposed sampling effort would require seven weeks of staff time and approximately \$75,000 in travel, supplies, and analytical expenses to complete.

Bacteria Work Plan and Budget

Similarly, staff noted the Commission conducted intensive longitudinal surveys for bacteria from 2003 to 2008. The purpose of this effort was to fill in the gaps between the major CSO communities where ORSANCO routinely collects bacteria data throughout the contact recreation season. Sixteen complete, and one partial, longitudinal surveys were completed during this period. Approximately two thirds of the Ohio River (i.e. 639 miles) is listed as impaired based on the results from these surveys.

Staff noted that because bacteria levels are highly variable depending on precipitation and flow conditions, bacteria monitoring requires many rounds of sampling to ensure a representative range of conditions are captured. In light of this, staff proposed the following study design:

- Collect samples over a 200 mile river segment each year. Complete assessment of the entire length of the Ohio River would be accomplished by repeating the effort for five consecutive years.
- Each year conduct 10 rounds of sampling evenly spread over the contact recreation season (i.e. April through October).

- Mid-stream surface grab samples would be collected approximately every 10 miles for a total of 20 samples per round of sampling.

The proposed sampling plan would require 20 weeks of staff time and approximately \$30,000 in travel, supplies, and analytical expenses to complete each year of effort.

The Technical Committee was in agreement, that at some point in the future, these data sets may need to be updated.

Proposed 2016 Biological Monitoring and Prioritized Special Studies

Staff member Jeff Thomas provided an update of the 2015 biological pool assessments with final results for Montgomery and J.T. Myers after incorporating recently received macroinvertebrate data, with final results for Racine still pending receipt of data. All three pools were rated as ‘Good’ for fish, while Montgomery was rated as ‘Fair’ for macroinvertebrates and J.T. Myers was rated as ‘Good’. Final one-page pool reports as well as the 2016 Biological Survey Report will be available on-line soon.

An overview was also given regarding the proposed special biological studies that will be considered annually by the Biological Water Quality Subcommittee to potentially replace a 4th pool survey. A prioritized ranking of the studies was presented as follows along with brief descriptions of the top-ranking studies:

1. Determine effects of *Hydrilla* on biotic indices.
2. Collect water/sediment chemistry at fish/bug sites.
3. Conduct next-year revisits to a pool with a borderline or questionable assessment.
4. Conduct same-year revisits to gauge effects of seasonality/flows.
5. Conduct targeted biological sampling.
6. Coordinate mussel surveys at fish/bug sites.
7. Determine upstream extent of Asian Carp reproduction.
8. Determine impacts of microplastics on aquatic life.

Staff recommends carrying out a study to quantify the effects of *Hydrilla* on biotic index scores in late summer of 2016. Some discussion followed regarding the difficulties of acquiring data to build an Ohio River mussel database including which agencies might have data and data comparability concerns. Mr. Thomas addressed Mr. Payne’s inquiry as to the number of in-season revisits possible by mentioning that ORSANCO only has the resources to conduct one a year with a slight possibility of two. The Technical Committee was in agreement with the recommendation to conduct the *Hydrilla* study in 2016, which was the top priority of the Biological Water Quality Subcommittee.

Fish Tissue Contaminants

Staff member Jeff Thomas gave a brief overview of the recent annual conference call of the Ad-Hoc Fish Consumption Advisory Workgroup held on April 22, 2016. The overview included highlights of the 44 samples collected in 2015 which included a Common Carp sample with 2.4 ppm PCBs and two samples with total and methyl mercury concentrations above the 0.3 ppm methylmercury criterion. The committee also agreed on a single update to the Ohio River fish consumption advisories for 2016 elevating Sauger greater than 14” to a meal per month for mercury in the section from J.T. Myers to the mouth of the Ohio River. Mr. Rob Reash suggested considering analyzing zebra mussels from the Ohio River for mercury since they are known to accumulate trace elements at elevated rates. Mr.

Thomas replied that some samples are currently planned to be collected in the Hannibal pool as part of a multi-agency project. He then went on to mention that all six main stem states now defer to the Ohio River Fish Consumption Advisory Protocol to issue advisories and four of the six states have signed the MOU.

Mr. Thomas reported that ORSANCO will be conducting a fish tissue contaminants study throughout 2016 on the Kanawha and Monongahela rivers of West Virginia on behalf of the state agency and supported by 604(b) funds. Twelve different taxa will be targeted from a total of seven locations on the two rivers and analyses will be conducted on the fillets for PCBs, dioxins, and total and methyl mercury. Whole fish samples will also be analyzed for methylmercury. As of June, all planned spring sampling had been conducted, consisting of two visits to each site. Some brief discussion followed a suggestion by Mr. Reash to consider analyzing the samples for selenium as well due to its antagonistic relationship with mercury bioaccumulation and to enhance WV's fish tissue database in preparation for USEPA's pending selenium criteria.

Markland Hydropower Dissolved Oxygen Study

ORSANCO Policy on Dissolved Oxygen Monitoring at Hydropower Facilities

Staff provided a review of ORSANCO's policy on dissolved oxygen (DO) monitoring requirements for hydroelectric facilities and a status update on hydropower development on the Ohio River. Staff noted ORSANCO adopted a policy on dissolved oxygen monitoring requirements for Ohio River hydroelectric power plants in 1988 due to concerns regarding the potential impacts of hydropower development on DO levels in the Ohio River. Past modeling studies indicated that aeration at dams was an important source of oxygen to the Ohio River. Diversion of the river's flow through hydroelectric turbines rather than passing over the dam, however, eliminates the potential for aeration.

The Commission's hydropower policy includes three provisions which should be contained in each Federal Energy Regulatory Commission (FERC) operating license for Ohio River hydroelectric facilities. These include:

1. Adequate studies are conducted prior to facility operation to define aeration characteristics of the dam;
2. Continuous monitoring of dissolved oxygen is provided at representative locations above and below the facility as appropriate, with data available to ORSANCO through remote interrogations; and
3. Provisions are made in the facility design and operation to allow maintenance of full aeration potential of the dam during critical conditions.

Staff reported that hydropower facilities are operational at 10 Ohio River locks and dams (L&Ds). These include Hannibal, Willow Island, Belleville, Racine, Greenup, Meldahl, Markland, McAlpine, Cannelton, and Smithland L&Ds. Hydroelectric power is in various stages of development at another eight dams. This includes pre-application documents filed with FERC for Emsworth, Montgomery, and R.C. Byrd L&Ds, applications filed for Newburgh and J. T. Myers L&Ds, and preliminary permits issued for Dashields, New Cumberland, and Pike Island L&Ds.

Dissolved Oxygen Monitoring at Markland Hydroelectric Generation Station

Keith Finley and Andrew Leininger of Duke Energy presented results of a five-year (2011-2015) water quality monitoring effort at the Markland Hydroelectric Project as part of its FERC license reissuance. The study involved placement of two continuous dissolved oxygen (DO) monitors upstream of the hydropower facility and two on the downstream side. Cross-sectional sampling was also conducted three times per year at two upstream and three downstream locations.

The daily minimum DO standard of 4.0 mg/L was met 100% of time and the daily average DO concentrations dropped below the 5.0 mg/L standard on just six days over the five-year study period. Results indicate that passing water through the hydropower turbines results in downstream dissolved oxygen levels being 0.3 mg/L to 0.5 mg/L lower than if the water was allowed to pass through the dam gates. Additionally, the build-up of organic debris on the upstream side of the hydropower facility was found to create an area of water with extremely low dissolved oxygen concentrations. In one instance, shutting down the hydropower operations and diverting the water through the dam displaced the debris field and the underlying poorly oxygenated water. This action resulted in localized areas of depressed DO downstream of the dam.

Duke Energy, in consideration of the study's findings, has proposed a long-term water quality compliance plan and schedule. This plan was submitted to IDEM, with copies going to ORSANCO and the US Army Corps of Engineers Louisville District office, on May 31, 2016. Key elements of the draft plan include:

1. Maintain one upstream and one downstream continuous DO monitoring station from June 1 through October 31. The USGS would be contracted by Duke to maintain the units and manage the data. Duke would have the ability to conduct independent accuracy checks of the USGS instrumentation to ensure units are functioning within calibration.
2. Interim triggers for hydro operation curtailment would be executed if daily average DO drops below 5.0 mg/L or if instantaneous DO levels are less than 4.0 mg/L. This provision is proposed to be nullified if Duke adds aeration injection capability to the turbines and demonstrates that this aeration offsets the aeration potential from dam spillage. An additional proposed provision negates the hydropower generation curtailment triggers in the event of electric grid emergencies or long-lived degraded water quality episodes such as that experienced during the 2015 HAB event.

Mr. Finley noted that the compliance plan was scheduled to be filed with FERC in July 2016. The Technical Committee indicated that additional time to review the plan was desired before making official comments on the plan relative to the Commission's policy on dissolved oxygen monitoring requirements for Ohio River hydropower facilities. Mr. Finley stated that he would follow-up with FERC and IDEM requesting a time extension for final plan submission. Staff was directed to provide TEC with an assessment of the Markland operating plan in relation to the Commission's policy on dissolved oxygen monitoring at hydropower facilities.

Harmful Algal Blooms

Staff presented a draft Harmful Algae Bloom Monitoring, Response and Communications Plan and provided the Technical Committee with hardcopy of the plan. Staff detailed the plan for monitoring the Ohio River during the 2016 summer months. The monitoring plan includes direct observation by staff who will be working on the river, monthly contact with Locks & Dam operators, monthly contact with water utilities, placement of datasondes at Pike Island L&D and potentially Meldahl L&D, and the use of satellite imagery. There was some discussion of how this would be communicated to the States. It was decided that the plan will specify that the States will be contacted whenever an algae bloom is identified by any of the above methods.

During a HAB event, ORSANCO staff will focus on defining the extent of the bloom while coordinating with the States to ensure adequate coverage of the bloom. Samples collected will be screened utilizing with in-house resources for the presence of toxin-producing algae as well as microcystin analyses when warranted. Samples collected for making management decisions (e.g. recreation advisories) will be sent to a certified laboratory identified by the States.

During an HAB event, ORSANCO will convene a weekly conference call with the contacts listed in Attachment C of the Plan, as well as the Water Users Advisory Committee. The purpose of this call will be to manage the response to the HAB. ORSANCO will provide weekly updates to the Commissioners, Technical Committee, and the Advisory Committees.

The Technical Committee agreed to provide comments on the plan by June 30, 2016.

Source Water Protection Programs

Staff reported on the recent meeting of the Commission's Emergency Response Coordinators Workgroup, dubbed the "Ohio River Regional Response Team", held May 18-19, 2016. Participants included emergency response personnel from five of the six mainstem states, On-Scene Coordinators from USEPA regions 3, 4 and 5, personnel from the US Coast Guard, and representatives from local drinking water utilities. Presentations and discussions were held on the following items:

- Crude Oil Initiative with Class 1 railroads for response and training.
- Apex oil spill on the Mississippi River.
- Review of the Ohio River emergency response umbrella plan.
- Dam to dam boom locations on Raven 911.
- Crawleyville, IN pipeline oil release to the Wabash River.
- Notification of drinking water utilities on the Combs/Hehl Bridge incident.
- Barge "lay-offs above drinking water intakes.
- ORSANCO ODS update.

Mr. Schulte reported on a West Virginia Department of Health and Human Resources water protection table top exercise which took place on May 19, 2016. Participants included ORSANCO, local emergency planning committees, emergency management agencies, and drinking water utilities. A hypothetical incident involving source water contamination was presented and the roles and responsibilities of the participants were discussed.

He then reported on a meeting with the Campbell County Police Department (CCPD) who has responsibility for the bridge immediately upstream of the Cincinnati and Northern Kentucky drinking water intakes. An incident occurred on this bridge which could have impacted those intakes, however the water utilities were not notified by emergency responders. The purpose of the meeting was to make the CCPD aware of the presence of these intakes and the need for the development of communications protocols should the need arise in the future.

Mr. Schulte reported on ODS operations. System wide, the daily river water samples were collected and analyzed 95.2 % of the time. This marks an improvement compared to past utilization of the ODS. A total of 6,905 river water samples were analyzed by all of the ODS between January 1st and April 30th, 2016. In addition, 2,200 QA/QC samples were analyzed. There were 15 service calls requiring on site repair by ORSANCO staff. Finally, installation of a new gas chromatograph has brought Pittsburgh Water back online as part of the ODS.

Mercury Studies

Federal Study of the Hannibal Pool/Hanlin-Allied-Olin Superfund Site

Kathleen Patnode with the U.S. Fish and Wildlife Service presented on an application of mercury stable isotope analysis for determining source attribution of mercury in the Ohio River. This is a Federal study of the Hannibal Pool and will address mercury from several sources including the Hanlin-Allied-Olin Superfund Site, the Axiall facility, the Mitchell power generating facility, regional atmospheric deposition, and runoff from other nonpoint sources. Analysis of mercury isotopes is a new tool for use in source attribution, which is a new capability of the USGS's Mercury Research Laboratory. It has been effectively utilized to analyze water, sediment, and fish for source attribution in the Great Lakes in a study by the USGS-USEPA Great Lakes National Program Office (GLNPO).

Objectives of the Hannibal Pool study are to:

- determine mercury source attributions that will enable remedial actions and discharge reduction measures to be prioritized and efficiently implemented.
- validate the stable isotope technique for use in other pools of the river, as well as surface waters contaminated with mercury from multiple sources in the region and nationwide.

The study design will include:

- sample surface water at discharges, soil, pore water, sediment, and biota encompassing all of the potential sources contributing to mercury in the biota.
- analyze the samples for stable mercury isotopes with procedures USGS developed for the EPA GLNPO study.
- identify relative source contributions for each media and biota type.

Media sampling in the Hannibal Pool will be conducted at five surface water discharge sites, five sediment sites, five soil sites, and three vertical water column samples at the Hannibal Dam. Biota sampling will include five mussel sites (two species), four fish sites (two species), and ten lichen sites. Sampling will be conducted in June-September, 2016, sample analyses will be finalized by July, 2017, and project results available in August, 2017. Study collaborators include USGS Mercury Research Laboratory, USEPA Region 3 Superfund Program and EAID Freshwater Biology Team, ORSANCO, USFWS Pennsylvania Field Office, USFWS Ohio River Islands National Wildlife Refuge, USEPA Office of Research and Development, and USEPA Region 10.

Report of the Ad Hoc Committee on Mercury Studies

Commissioner John Kupke, Chairman of the Ad Hoc Committee on Mercury Studies, provided background on the committee. Past Chairman Tom Easterly established the committee in June, 2015. The committee's charge is to evaluate what is known about the sources that impact the Ohio River and make recommendations to the Commission on the need for additional information and proposed means to obtain such information, and make recommendations for studies to the Commission. He reported that five conference calls have been held to date. The committee has completed a literature review of information relevant to mercury in the Ohio River, identified available mercury from ORSANCO and outside sources, identified and prioritized the information needs, and completed a background paper on mercury based on the literature review. He summarized some of the science and management information needs identified by the committee, and reported that the committee has agreed that a mercury mass balance/source apportionment is initially the top priority information need.

Commissioner Kupke discussed many of the important concepts surrounding mercury in the Ohio River. The presence of mercury in the aquatic ecosystem, including the Ohio River, is a highly complex issue. Mercury in the atmosphere is a global pollutant, and atmospheric deposition is the

primary source of mercury to aquatic systems. Mercury bioaccumulates in aquatic biota and magnifies as it moves up the food chain. Natural and anthropogenic sources of mercury are important. Trends in global emissions of mercury are decreasing in the U.S., but are increasing in other regions. He also provided a brief description of the cycle of mercury in the aquatic ecosystem.

Commissioner Kupke summarized the objectives of a mercury mass balance/source apportionment was to quantify the amount of mercury entering the Ohio River, compare it with the measured in-river quantity of mercury, and apportion the amount in the Ohio River to the various identified sources. The committee is currently evaluating various approaches to generating this information, including an atmospheric approach, a modeling approach, and a point source approach. He reported that the committee is working towards development of a mass balance study for recommendation to the Commission at its October, 2016 meeting.

Member Updates and Interstate Water Quality Issues

Kentucky

Mr. Payne reported that KYDOW has submitted their 2015 water quality standards triennial review packet to USEPA Region 4 for approval. This review packet lists 12 segments of the Ohio River from the Greenup pool to J.T. Myers Locks and Dam as Outstanding Resource Waters for the first time due to the presence of federally listed mussels. Review by USEPA Region 4 of their 2014 Integrated Report of impaired waters, which focused primarily on the Big Sandy, Little Sandy, and Kentucky rivers, is underway and is expected by the end of this summer. Completion of the 2016 Integrated Report is currently in progress. Monitoring in Kentucky in 2016 will be focused on the Green and Tradewater river watersheds.

Pennsylvania

Mr. Schwartz welcomed all to Pittsburgh. He reported that Shell is nearing a decision on development of a petrochemical plant (“Cracker plant”) in Beaver County, PA, along the Ohio River. One of the big environmental benefits of the project, which has already occurred, is the cleanup of the “Horsehead property” that had significant zinc contamination. Zinc has essentially been removed from stormwater that enters the Ohio River. Permits for the Shell plant have been issued which will meet best available technology and water quality standards. In addition, mercury levels in its discharge are anticipated to be below detection. The project is expected to be a great economic and environmental benefit to the region. The Centre Township Water Authority will be installing a new intake on the Ohio River in the next several months, and all permitting has been completed. In addition, Westview Water is installing a new (second) surface water intake on the Ohio River. Lastly, Midland is relocating their Ohio River intake. The PADEP Pittsburgh office is developing local HABs strategies which will be coordinated with the Ohio River HABs strategy, and they have obtained test kits for HABs monitoring. He finally reported that PADEP has a new Acting Secretary, Patrick MacDonald, and Ron will be serving as his proxy to the Commission.

Indiana

Mr. Novak reported that IDEM is currently investing a lot of time on power plant issues within its permitting program. They recently met with some environmental groups which had concern about surface water discharges during the closure of ash ponds, specifically about contaminant levels in these discharges as water levels in the ponds are lowered. IDEM has asked that utilities to submit surface water discharge plans for these closures which may include increased monitoring and permit limits when appropriate. Duke Energy has plans to close their Gallagher power plant by 2022. IDEM will be meeting with ITech regarding renewal of its Clifty Creek power plant NPDES permit in 2017 and will be discussing issues including implementation of the new federal effluent guidelines and the closure of ash ponds. Vectren has two power plants on the Ohio River that they will be making decisions about

regarding potential future closure or conversion to gas. Finally, he reported that a long term control plan for Evansville's combined sewer overflows is nearing finalization, which will require no more than four overflows in a typical year.

Public Interest Advisory Committee (PIACO)

Ms. Mallison reported that PIACO has not met since its February meeting. She noted that the Ohio River SWEEP is scheduled for June 18 and encouraged everyone's participation.

West Virginia

Mr. Mandirola reported that their water quality standards rule package was approved by the legislature. It included adoption of EPA's recommended selenium criteria and hardness-based aluminum criteria. They are beginning a new standards triennial review for 2017. Proposals to be put out for public notice include USEPA's recommended criteria for human health, utilization of harmonic mean flow for carcinogens and 30Q5 flow for non-carcinogens, changes to waters based on protecting potential future drinking water use, and changing the bacterial indicator from fecal coliform to E. coli. The state has not yet approved a new budget which would become effective July 1. He also reported on an upcoming meeting with Kentucky, Michigan, Ohio, Pennsylvania and West Virginia to coordinate their rules regarding the disposal of oil and gas wastes containing TENORM (technologically enhanced naturally occurring radioactive material) to minimize the possibility of operators "shopping" states for disposing of such wastes. He finally reported that WVDEP is in the process of renewing the NPDES permit for Chemours Dupont Washington Works, which has challenges associated with the C-8 (Perfluorooctanoic acid, PFOA) contamination issue.

United States Army Corps of Engineers

Mr. Emery reported that a new General has been assigned to the division, General Toy, and that he will be working to coordinate a meeting with Richard. They have fully transitioned from using the Cascade flow model to the new HEC-RAS flow model. However, they will continue to run the Cascade model which the ORSANCO spill model relies upon, until ORSANCO completes its updates to accommodate the new HEC-RAS model. The Corps will be hosting a water quality workshop December 6-8 in Cincinnati which will address Ohio River Basin issues.

Water Users Advisory Committee

Mr. Whitteberry reported that the Water Users Advisory Committee met on May 16-17. He reported that water utilities are now preparing for the potential occurrence of HABs this summer. In addition, all Ohio water utilities are required to comply with the state's Harmful Algal Bloom rules which include routine source water monitoring. Finally, he expressed the committee's deepest thanks to Jerry Schulte for his work and leadership over the years.

Ohio

Ms. Sherer reported that OEPA has developed an SOP for wearing personal protective equipment when sampling when microcystin. They have been working with their power plants regarding implementation of the coal combustion rule and new effluent guidelines. They are considering asking these facilities to provide their proposed schedules for implementing the effluent guidelines by January, 2017. OEPA has been tasked by the legislature to develop a statewide nutrients mass balance which should be available shortly. They are investigating better defining the state's Ohio River backwater areas utilizing GIS to better define normal pool elevations. Finally, she reported that OEPA is processing air and water permit applications regarding the proposed petrochemical (ethane "cracker" plant) in Belmont County.

Virginia

Mr. Newman reported that ash pond closings at power plants is a significant issue currently for VADEQ. Additional monitoring will be required during the ash pond dewatering phase for one power

plant in the Ohio Basin on the Clinch River. The Clich-Powell Clean Rivers Initiative symposium will take place this summer. The initiative has addressed mussel declines in these watersheds. An MOU between USEPA regions 3 and 4, VADEQ, and Tennessee Department of Environmental Conservation had led to scientific studies and research which will be presented at the symposium.

New York

Jeff Konsella reported that New York is requiring statewide permit modifications for disinfection for discharges to waters in proximity to contact recreation use. They are also continuing with inspections of bulk petroleum storage and brine storage and disposal practices for oil producing facilities in the Southern Tier.

Illinois

Mr. Mosher reported that a significant issue for ILEPA current involves a law suit involving how effluent limits for nutrients are implemented in permits for sewage treatment facilities. The suit claims that the phosphorus limits in the permits do not comply with the state's narrative water quality standard for nutrients, which requires no excess algae of plant growth in streams caused by unnatural sources. The state's position is was that the 1 mg/L total phosphorus limits are interim measures until numeric nutrient criteria are established. The USEPA believes that this lawsuit may have national significance. They are currently working on ammonia criteria for the state which will address the USEPA's new national recommendation. They are also working to change bacteria indicators from fecal coliform to E. coli to address the national recommended criteria.

Power Industry Advisory Committee

Mr. Reash reported that many utilities are currently working with their respective states to implement two recent federal rulemakings, including the 316b impingement and entrainment rule, and the effluent limits guideline rule. Studies are in progress on the impingement/entrainment rule. The industry recognizes that discharge water quality will change as ash ponds are dewatered, but they recommend that a reasonable potential analyses of these discharges be completed prior to establishing water quality based effluent limits. Some facilities will be phasing out bottom ash transport waters which may require the construction of new outfalls for low volume streams in the future. The Waters of the U.S. rule is currently in litigation, and most states are not requiring implementation of that rule until the litigation has been rectified. The Corps recently announce changes to its nation-wide permits program which may change which activities may require an individual permit as opposed to falling under a nation-wide "general" permit. The USEPA also has begun revising its 316a guidance for thermal discharge demonstrations. The USEPA and USGS recently released a draft document on the effects of flow alteration. The utilities have a concern about flow requirements being included in future permits, however the USEPA has indicated that it would be a states' decision. A national utilities group will be submitting comments on the document. Finally, Mr. Reash thanked ORSANCO and OEPA for supporting the Earth Day event at held this May their Conesville, OH plant.

US Geological Survey

Mr. Kieth Banachowski introduced himself being with the Ohio-Michigan USGS Science Center, and expressed his appreciation for the opportunity to learn more about ORSANCO and that he looks forward to working with the Commission in the future.

Watershed Organizations Advisory Committee

Ms. Peterson reported that the Watershed Organizations Advisory Committee is new and still getting organized. They have initially established three workgroups to address issues, including mercury, nutrients/HABs, and spills/public notices. Madeline Fleisher is participating on the ad-hoc mercury committee and we would like to have our workgroup participate on as many ad-hoc or standing committees as possible in order to better understand the work ORSANCO is doing and what it means for the Ohio River.

The committee agrees with and supports additional monitoring early in the season as well as early in the summer for HABs. Our workgroup is interested in a report on the 700 mile long HAB that formed last year and is interested in supporting ORSANCO on understanding what happened last year. The committee would like to help support ORSANCO to secure funding to better understand what happened. The committee understands that data analysis of the event from last summer/fall is a top priority for ORSANCO and looks forward to learning more.

The spills/public notice workgroup focused on recreation and CSOs. ALCOSAN has an email/text alert and flag system located along the river for public notices to alert the public about recreation use support in the Pittsburgh area. The workgroup has focused on what kind of alerts are out there and how well they work. ORSANCO could possibly provide more information on the web site about contact with the river during or after CSO events.

Regarding the 305(b) Report, a number of committee members have expressed concern over the continued use of the "weight of evidence" approach because it departs from established US EPA methods that serve to comply with the Clean Water Act, and because the states relying on the Commission's 305(b) report will either need to justify its use to USEPA when seeking approval for their list of impaired waters, or ignore ORSANCO's use assessments altogether which would create unnecessary confusion. It raises the question of whether ORSANCO is assisting the states to the extent possible.

Regarding mercury and fish consumption in the 305(b) draft report, thirteen of the 19 pools have some fish tissue samples that were greater than 0.3 ppm for methyl mercury. In addition, six pools have water quality criteria exceedances in greater than ten percent of the samples. The committee therefore believe there is still reason to be concerned about mercury. The committee would like to work with TEC to figure out a good way of keeping track of the issue and to better understand it.

In evaluating Aquatic Life Use, the committee urges the use of dissolved oxygen and temperature data be included, precisely because it represents river conditions when they are most impaired by these measures. It is both appropriate and necessary to bring these criteria back into attainment when they are in the most degraded condition; that is what the Clean Water Act was meant to achieve. Leaving out this crucial data when determining impairment discounts the need to provide quality aquatic habitat. The committee is concerned that characterizing the summer data as "worst case" doesn't address whether it's the data that matters most in terms of affecting the uses of the river. If it is the case that uses aren't attained during summer conditions, that should be a basis for an impairment determination, even if on average for the year the temperature and DO criteria are being met.

In conclusion, let me reiterate that we are a new advisory committee, we're still getting organized, and we would like to have our workgroup participate on as many ad-hoc or standing committees as possible in order to better understand the work ORSANCO is doing and what it means for the Ohio River. This will also help us develop a better understanding of ORSANCO members and the work of the various committees.

Comments by Guests

Commissioner Hoopingarner remarked that the Muskingum Conservancy District manages an 8,000 square mile watershed in Ohio. In 2011, they began testing for HABs in nine reservoirs in partnership with the Ohio Lake Management Society and their Citizen Lake Awareness and Monitoring (CLAM) program. The data from this program is being compiled on the OLMS website (www.OLMS.org). For the most part microcystin levels have been below 6 ug/L. Tappan Lake has some levels above 6 ug/L

which is significant because it is a drinking water source. They are also working with the USACE and USGS to continue a water quality testing program, the data for which can be found on the conservancy's website.

Next Meeting

The next meeting of the Technical Committee will be held October 4-5, 2016, at the Owensboro Convention Center, in Owensboro, KY.

Adjournment

The 211th meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 12:13 pm on June 8, 2016.

Approved:

A handwritten signature in cursive script that reads "Michael P. Wilson". The signature is written in black ink and is positioned above a horizontal line.

Mike Wilson

Prepared by Jason Heath, P.E., BCEE with contributions from Sam Dinkins, Eben Hobbins, 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.

Roster of Attendance

Technical Committee

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| Chairman | Commissioner Mike Wilson |
| Illinois | Bob Mosher |
| Indiana | Eileen Hack |
| Kentucky | Randy Payne |
| New York | Jeff Konsella |
| Ohio | Erin Sherer |
| Pennsylvania | Ron Schwartz |
| Virginia | Allen Newman |
| West Virginia | Scott Mandirola |
| US Army Corps of Engineers | Erich Emery |
| US Coast Guard | Chris Williammee |
| US EPA | Not present |
| US Geological Survey | Kieth Banachowski |
| POTW Advisory Committee | Not present |
| Power Industry Advisory Committee | Rob Reash |
| Public Interest Advisory Committee | Betsy Mallison |
| Water Users Advisory Committee | Bruce Whitteberry |
| Watershed Organizations Advisory Committee | Judy Peterson |
| ORSANCO Chief Engineer | Richard Harrison |
| Staff Liaison | Jason Heath |

Commissioners

Stuart Bruny, Carol Comer, Doug Conroe, Charles Duritsa, George Elmaraghy, David Flannery, Toby Frevert, Peter Goodmann, John Hoopingarner, Tiffani Kavalec, John Kupke, Ron Lovan, and Ron Potesta.

Staff

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

Guests

| | |
|-------------------|-----------------------------------|
| Bill Babe | Allegheny Industrial Solutions |
| Frank Borsuk | USEPA |
| Joe Bozada | Environmental Service Labs |
| Cheri Budzynski | Shumaker, Loop & Kendrick |
| Jessica Dexter | Environmental Law & Policy Center |
| Madeline Fleisher | Environmental Law & Policy Center |
| Keith Finley | Duke Energy |
| Joe Lapcevic | FirstEnergy Corp. |
| Andrew Leininger | Duke Energy |
| Paul Novak | NPDES Subcommittee Chairman |
| Kathleen Patnode | USFWS |
| Rose Reilly | USACE Pittsburgh District |
| Adam Rissien | Ohio Environmental Council |
| Josh Quinn | Duke Energy |