MINUTES
216th Meeting of the Technical Committee
Metropolitan Club
Covington, Kentucky
February 7-8, 2018

Chairman Mike Wilson, Presiding

Call to Order

The 216th meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Wednesday, February 7, 2018. Five states, three federal agencies, and two Commission advisory committees were represented (for Roster of Attendance see on page 12).

Minutes of 215th Committee Meeting

ACTION: Motion passed to accept the minutes of the 215th Technical Committee meeting.

Chief Engineer's Report

Director Harrison reported on ORSANCO's efforts surrounding source water protection. We are currently working with water utilities, and in the future with industry, to develop a funding stream for source water protection programs, particularly as relating to spills, emergency response, monitoring, and funding of maintenance agreements and operational expenses for the organics detection system. Several efforts are underway regarding projects aimed at harmful algal blooms, including a University of Cincinnati senior capstone project, a USEPA RARE grant project, and a West Virginia 604b grant to build on the RARE grant. Regarding the Ohio River Basin Alliance (ORBA), staff is working to make the ORSANCO Technical Committee the water quality arm of ORBA's water quality initiative. Future ORBA projects to focus on include working with the various state and federal agencies to build an Ohio River Basin geographic information system for water management, as well as a water resources effort.

Overvew of ORSANCO Technical Programs for Development of FY19 Program Recommendations

Jason Heath presented an overview of ORSANCO's current technical programs. This is done at each February Technical Committee meeting to facilitate the committee's development of recommendations for consideration by the Program and Finance Committee for inclusion in ORSANCO's FY19 programs. He indicated that program recommendations developed during the meeting would be summarized at the end of the meeting and presented to the Program and Finance Committee at its April meeting.

Review of ORSANCO 2016 Biological Pool Assessments

ORSANCO staff presented the final assessment results for the three pools sampled in 2016 (Willow Island, Greenup and Cannelton) for fish and macroinvertebrates (macros). The final assessment results were delayed due to lab complications involving the enumeration of the Cannelton multi-habitat sweep (MH) macro samples, which weren't completed until mid-October 2017. Fish and macro assemblages of Willow Island indicated the pool to be in 'Good' and 'Fair' condition respectively. Greenup was similarly found to be in 'Fair' condition using the macro results whereas the fish indicated it was in 'Very Good' condition. The macro results of Cannelton pool were omitted from assessment. This was done with the approval of the BWQSC because 6 of the 15 Hester-Dendy (HD) samplers were lost due to a high flow event during the index period and the assessment requires data from at least 10 sites. Secondly, the data from the retrieved samplers, along with the MH sweeps that could have been

substituted for the lost HD samplers, revealed a negative impact also attributed to the high flows (e.g. suppressed numbers of taxa and individuals per sample). Thus Cannelton pool was only assessed with fish results which indicated the pool to be in 'Very Good' condition. These final pool assessments were approved by the BWQSC and were posted to ORSANCO's website.

Review of ORSANCO 2017 Biological Program Sampling Activities

ORSANCO staff reported that river conditions fluctuated throughout the 2017 field season. For the first time in the last 5 years over half of the electrofishing surveys were completed after July 31. This was due to sporadic heavy rain events in July and early August which led to most sites being sampled as stages were falling after these rain events. While direct flow data remain unavailable, we can make inferences using field observations and an analysis of conductivity and secchi as surrogates for flow (low flows at the time of sampling generally relate to higher conductivity and higher secchi readings). Although conditions were within sampling constraints (stage <2' above normal and secchi >15"), the three 2017 survey pools (New Cumberland, Meldahl, and Newburgh) all experienced high flow regimes at the time of sampling.

New Cumberland fish survey results indicate the pool to be in 'Fair' Condition, matching the 2011 survey from last cycle. Similarly, Meldahl fish surveys produced the same condition rating (Good) as the last time it was surveyed in 2012. The 2017 Newburgh fish surveys, however, produced a condition rating one level lower than 2012; it was found to be in 'Good' condition. Still the 33.6 average *m*ORFIn score is well above the bio-criterion of 20.0.

Macroinvertebrate sampling was completed successfully in all three survey pools, with retrieval of 91% of the HDs. A fourth year of Nutrient Criteria data were collected alongside the biological data from the pools, with 95% of the DO continuous sensors being retrieved. Results from the 2017 pools should be available in early March, at which time ORSANCO staff will hold a conference call with the BWQSC members to discuss the macro index results and finalize the 2017 pool assessments.

A total of 27 fish tissue samples were collected and submitted to the lab for analysis. Data are expected by April 2018. Staff also reported that an RFP process was conducted in 2017 and PACE Analytical Services LLC was selected to continue to provide analyses and logistical support for the next 5 years.

Other Initiatives/Research

Similar to 2016, staff again conducted special studies during the 2017 field season in lieu of a 4th pool survey. The repurposed effort allowed staff to assist state agencies with various data needs. One study involved placing temperature probes in six direct Ohio River tributaries within Meldahl pool on behalf of OEPA. All loggers were successfully retrieved and returned to OEPA. ORSANCO provided no analyses as OEPA intends to use the data to determine the most appropriate temperature standard for each stream. Another study involved electrofishing surveys in the lower portions of direct tributaries to the Ohio River. During the prior BWQSC meeting it was discussed that these unique habitats are often under sampled by state agencies and fall outside of the probabilistic draw for ORSANCO's pool surveys. Thus during the 2017 field season direct tributaries within each scheduled probabilistic pool were sampled using state sampling protocols. The data from these surveys were presented and all relevant data and fish tissue samples were delivered to the appropriate state agency. The most labor intensive special studies pertained to existing and potential hydropower facilities on the Ohio River. During the spring of 2017 concerns were raised by members of the BWQSC that data were limited relative to hydropower impacts to instream condition (abiotic and biotic). Staff developed a sampling plan, approved by the subcommittee, which involved combining standard ORSANCO biological surveys (electrofishing and macroinvertebrate protocols) with dissolved oxygen (DO) and temperature loggers and transect profiles. This plan was employed at 12 sites across areas of concern near two existing (Greenup L&D and Cannelton L&D) and two proposed (Allegheny L&D #2 and Montgomery L&D) hydropower facilities. Due to availability of probes not all hydropower sites had continuous DO and temperature data collected. Staff presented the data available at each hydropower site and discussed with the BWQSC members the most appropriate methods for data analyses. The conclusions of these discussions were (1) that a summary of the abiotic data and measures of integrity (e.g. MIwb, *m*ORFIn, and ORMIn) would be sufficient for establishing a baseline condition at proposed hydropower facilities and (2) that a

comparison of abiotic (DO and Temp) and biotic (*m*ORFIn and ORMIn) data between proximal and distal sites could aid in determining the impact of existing hydropower facilities. ORSANCO staff plan to complete these analyses and report the results to the subcommittee at a later time.

Staff updated the committee regarding ORSANCO's Electric Power and Research Institute (EPRI) agreement award in October 2017 to help enhance and update an existing Ohio River mussel database (which has not been maintained since it was developed in 2000). The agreement also funded a mussel survey of Newburgh pool, which yielded several new taxa and nearly 3x the number of individuals than a prior survey conducted in 2012. A final report is due to EPRI in April of 2018 to fulfill this agreement.

Probabilistic Cycle and 2018 Biological Pool Assessment Schedule

During the 2016 BWQSC it was agreed that ORSANCO staff could reduce the number of pools surveyed in the field seasons of 2018 and 2019 down to two probabilistic pools, allowing for increased participation in the National Rivers and Streams Assessment (NRSA). Therefore, a proposed 2018 probabilistic pool sampling schedule was presented, showing three potential pools for consideration (Emsworth, Pike Island, and Smithland) from which the two pools could be chosen. Emsworth and Pike Island are the only pools not surveyed since 2012. Smithland is one of four pools surveyed in 2013, and was proposed to distribute sampling more evenly across the river. Also because of ORSANCO's recent reduction in pool surveys per year and consequent departure from its established 5 year assessment cycle, staff presented a new 6-7 year cycle schedule (with potential pools listed for each year) for consideration.

This information was first presented in the form of a questionnaire prior to the meeting, during which these scenarios were further discussed. The subcommittee agreed that Emsworth and Pike Island pools, though geographically close, are the most appropriate candidates for sampling in 2018. These two pools were of additional interest to some state and federal partners as Ohio and Pennsylvania have entered requests for additional macro samples near waste water treatment plants in each pool, and the USACOE noted hydropower facilities have been licensed for the projects associated with these two pools. Concerning the cycle extension the consensus of the states was (1) that they could accommodate the extended cycle as they would simply use the most recent data provided and (2) the 6-7 year assessment cycle was still shorter than the majority of cycles currently employed across the states.

Other Topics for Discussion

Staff presented a summary of the 2017 Life Below the Waterline program outputs, stressing the importance of this facility and its impact on public outreach. Staff also presented the schedule for ORSANCO's involvement in the NRSA, which the subcommittee continued to support. Staff displayed the 99 sites sampling events to be sampled at the request of four states (Kentucky, Ohio, West Virginia and Pennsylvania), 57 of which are scheduled for completion during the 2018 field season. The nature (a combination of wadeable and non-wadeable sites) and number of sites will require ORSANCO to purchase a small electrofishing boat, backpack electrofishing unit, and hire a contractual biologist and two seasonal interns.

Though involvement in the NRSA would likely preclude the completion of special studies, staff presented the subcommittee with a list to be considered should resources allow. The list for 2018 excluded two studies from the 2017 list: the dedicated hydrilla survey (incorporation of quantitative vegetation collections into annual pool surveys has made this option obsolete) and an additional pool survey (contradicts prior BWQSC recommendation). The two special studies completed in 2017 (conducting biological surveys of the lower reaches of direct tributaries and conducting biological sampling below hydropower facilities) remained on the list to be considered for a second year of effort. These prioritization lists were reviewed and completed prior to and during the BWQSC meeting by subcommittee members. Upon review of the prioritization results the highest priorities were to continue the current level of fixed station sampling and to determine the effects of seasonal influences on the *m*ORFIn and ORMIn. The former will require field personnel time whereas the latter is a statistical exercise requiring no additional sampling. The remaining studies of high importance were targeted sampling, direct tributary sampling, and hydropower impact surveys. Because both the direct tributary and hydropower surveys are forms of targeted sampling a discussion ensued pertaining to core objective reflected by the state rankings. It

was concluded that targeted sampling within scheduled survey pools would be the most beneficial and efficient and that the objective of the sampling (e.g. direct tributary, hydropower, etc.) would be best decided by ORSANCO and the state/federal agencies. Overall, the subcommittee recognized that these special studies are secondary to the primary objectives of the 2018 field season (complete 2 pool surveys and target 57 NRSA sites for completion), and are to be completed only as resources allow.

Recommendations of the Biological Subcommittee

1. Accept all three 2016 pool assessments. The assessments indicated the macroinvertebrate (macro) and fish assemblages in Willow Island and Greenup pools were in 'Fair'or better condition. The Cannelton pool assessment was based only on the fish survey as the requisite number of macro samples were not collected due to flow complications. Cannelton pool was assessed to be in 'Very Good' condition.
2. Accept the results of the 2017 fish surveys which indicated the New Cumberland, Meldahl, and Newburgh pools as being in 'Fair' or better condition.
3. Analyze both the modified Ohio River Fish Index (*m*ORFIn) and Ohio River Macroinvertebrate Index (ORMIn) for effects of seasonality.
4. Proceed as planned to sample 57 National Rivers and Streams Assessment (NRSA) sites in 2018 and the remaining 37 in 2019, at the expense of 1 biological pool survey per year.
5. Conduct probabilistic sampling in Emsworth and Pike Island pools in 2018. Proceed as planned with the current 6-7 year assessment cycle for the entire Ohio River.
6. Maintain current fixed station effort for 2018 and conduct targeted sampling, as resources allow, within the two probabilistic pools as directed by relevant state and federal agencies.

Report of the Ohio River 305b Coordinators Workgroup

Staff presented 2018 Ohio River use assessment methodologies for determining water quality impairments, along with draft results of those assessments, which covers the timeframe 2012 through 2016. The 2018 assessment methodologies were identical to the 2016 methodologies which were approved by TEC in 2016, and the resulting draft 2018 assessment results were almost identical to the 2016 results. The only change was a 2 mile increase in the number of impaired miles for the contact recreational use based on bacteria monitoring data. Draft results includes the entire river fully supporting (no impairments) for the aquatic life use and public water supply use. The entire river is designated as impaired for fish consumption based on levels of PCBs and dioxin in historical water quality samples, and approximately two-thirds of the river is impaired for the contact recreation use based on bacteria monitoring results. The committee deferred action on the assessment results to the June meeting when the draft written report would also be available.

Ohio River Basin Climate Change Report Findings

Mark D. Kessinger, of DLZ National, Inc., presented the results of a recent study led by the U.S. Army Corps of Engineers on climate change for the Ohio River Basin. Mr. Kessinger served as the study's Project Manager before retiring from the Corps. The study was conducted by over 20 federal and state governments, conservation agencies, academic institutions, non-profits and consultants, and was the first comprehensive study to evaluate the impacts of climate change on the Ohio River Basin's water resources infrastructure and its ecosystem. Modeling conducted as part of the study predicts changing precipitation and stream flow rates and forecasts a range of temperature changes throughout the basin through 2099. The report's findings estimate that Ohio River Basin's temperatures will increase by a half degree Fahrenheit per decade through 2040, and by 1 degree per decade from 2040 through 2099. For rainfall, there won't be a significant change through 2040, but from 2040 through 2099 northeastern and eastern portions of the basin will experience greater rainfall and river discharges. As much as 35%-50% greater during spring flows within the Allegheny, Monongahela, Kanawha and Big Sandy River sub-basins. The Northwestern and western portions of the basin will experience greater rainfall and river discharges in the spring season, but the fall season will bring significant reductions in rainfall and thus decreased river flows. As for stream flows, until 2040 the mean, maximum and minimum flows will be about the same as we have historically had. But after 2040, the minimum flows are likely to decrease, which means more severe periods of drought, and peak spring floods are likely to increase. For example, there will be as much as 25%-35%

less flows during the fall within the Great Miami, Wabash, East Fork of the Wabash, White, Scioto and Muskingum Rivers.

Source Water Protection Program Update

Staff provided an overview of the ongoing activities associated with the Commission's Source Water Protection programs. This update included a progress update on efforts to initiate a contaminant source inventory pilot project, an update on discussions concerning the next generation of the ODS and evaluation of future system needs, and a review of recent significant spill response events.

Contaminant Source Inventory Pilot Project

ORSANCO is working with representatives from US EPA, Greater Cincinnati Water Works (GCWW), Northern Kentucky Water District (NKWD) and Corona Environmental to complete a pilot project to evaluate the utility of Corona's WaterSuite software to inventory potential contaminant sources along the Ohio River. The initial geographic focus of the pilot project will cover the area upstream of the NKWD/GCWW water intakes from Cincinnati to Maysville, KY (approximately 60 miles). The project entails pulling potential source data from a host of federal, state, and possibly local databases into one standardized GIS-based data management system. The initial phase is anticipated to be completed in approximately 6-months from initiation.

Next Generation Organics Detection System

The last equipment renovation of the Organics Detection System (ODS) began in 2009. Given the age of some of the instrumentation in use, it is time to begin planning for the next generation of the system. The Water Users' Advisory Committee (WUAC) has established a work group for this purpose which includes representatives from Louisville Water Company, Greater Cincinnati Water Works, Northern Kentucky Water District, and WV American Water Company. The work group will evaluate a number of factors including potential contaminants of concern, new instrument technologies, and monitoring system design options. The work group, in concert with the full WUAC, will provide recommendations for the Commission's consideration on options to achieve a technically effective and cost efficient early warning spill detection and monitoring system.

Review of Spill Response Activities

A number of noteworthy spills requiring extended response activities by staff occurred since the previous Technical Committee meeting in October 2017. In October, a warehouse fire burned for nearly a week in Parkersburg, WV. Limited information was available on the types and amounts of materials that were stored on-site. Firefighting runoff from the site posed a potential water quality concern. ORSANCO staff coordinated with WV DEP and OH EPA to have water samples collected from a storm water outfall from which the runoff was draining into the Little Kanawha River. Staff also conducted a 100-mile longitudinal survey along the Ohio River and coordinated the analysis of samples at a number of drinking water utilities. No volatile or semi-volatile organic compounds were detected in the Ohio River samples.

On Dec 19, a barge experienced a catastrophic failure, releasing 467,000 gallons of urea ammonia nitrate at Ohio River Mile 478.7 (downstream of Cincinnati). ORSANCO staff quickly provided notifications to downstream utilities and worked closely with emergency response and drinking water agency staff from KY, OH, IN, IL, and US EPA throughout the event. Staff provided daily time-of-travel model projections to estimate arrival times and conducted boat-based longitudinal surveys to determine the location of the leading edge and peak concentrations. Staff also coordinated daily conference calls focused on downstream water quality impacts and drinking water treatment.

The plume arrived at the Louisville Water intake (first downstream utility) on Christmas Day with ammonia concentrations peaking at 0.37 mg/L. Due to low water demand on the holiday, the Louisville Water Company was able to temporarily shut down while the plume's peak passed by their intake. The plume was also monitored at Evansville Water where it arrived some 10 days after the incident on December 29. Ammonia concentrations at Evansville peaked at 0.26 mg/L. Both utilities were able to make treatment adjustments to compensate for the elevated ammonia levels and did not experience adverse impacts on their finished drinking water.

Lastly, on January 10, the tow boat M/V Gate City sank near mile 8 on the Big Sandy River. The vessel was estimated to contain 5,000 gallons of diesel and other oils. The amount released into water, however, was unknown. A sizeable sheen extending for several miles downstream was observed. ORSANCO made initial notifications to downstream water utilities and provided updates, including time-of-travel modeling estimates, throughout the response. The Kenova Water plant, which draws directly from the Big Sandy River, was shut down for four days to avoid drawing in the oil released from the sunken vessel. Staff maintained close contact with downstream ODS stations during the response and provided updates as needed. The ODS station at Ashland, KY, located approximately 10 miles downstream of the incident location, observed low-level detections for several volatile organic compounds (VOCs) on January 11 and 12. These detections, however, were all well below the 1 ppb quantitation limit. All other samples collected at Ashland and other downstream stations were all non-detects for VOCs.

Each spill response incident presents a unique set of circumstances and challenges. In looking back at these incidents collectively, we can draw out a number common takeaways that can be applied to future incidents to improve our response. Common themes from these three incidents include:

1. Illustrated the importance of collecting water quality samples early in the response to characterize the location and magnitude of the release. This eliminates some of the unknowns and allows downstream water users to be better prepared to optimize their response.
2. Reinforced the value of the collaborative network of ODS partners to assist fellow utilities with enhanced analytical services and water treatment guidance.
3. Emphasized the importance of engaging state drinking water agency personnel early in the response to ensure water utility needs are met.

Harmful Algae Blooms

Staff provided an overview of actions since the 2015 HAB event that have been aimed at understanding the causes of the HAB and providing early warning of future HABs. These actions include:

- Developing a new HAB Monitoring, Response and Communications Plan
- Forming an HAB Scientific Workgroup
- Adding new capabilities in the form of ELISA toxin testing, microscopy, and satellite imagery analysis
- Moving two datasondes into the HAB affected areas
- Partnering with Marshall University to access data from 2 datasondes in the Huntington area
- Working with USEPA on a RARE grant which is focused on identifying the causes of the HAB
- Partnering with UC on a Senior Capstone project aimed at displaying real-time sensor data on ORSANCO's website
- Seeking 604(b) funding from WV to further analyze the 2015 HAB data and from IN to place 2 more datasondes on the Ohio River.

UC Senior Capstone Project

Celeste Bauer and John Myers, seniors in the University of Cincinnati Environmental Engineering program, presented on their Senior Capstone Project. The scope of the project is to develop a system that will provide a centralized platform for sharing Ohio River data; give a comprehensive real-time representation of the conditions along the Ohio River; create alerts for ideal HAB river conditions, and; give early microcystis detection for water treatment plants along the Ohio River.

Celeste and John showed the progress to date which includes development of a database as a back-end for real-time data from ORSANCO's datasondes, identification of critical conditions which are ideal for HABs to form, and a GIS map with a color coding system to quickly identify those critical conditions. The project is expected to be completed in May 2018.

USEPA RARE Grant

The USEPA received funding for a USEPA Regional Applied Research Effort (RARE) project to begin collecting, organizing, and assessing data relating to the 2015 Ohio River HABs event. The original scope of this project was to collate, manage, and analyze water data for the Ohio River and tributaries from 2010 to 2107 to better understand the conditions that produced the 2015 HAB. The goal was to enhance Ohio River HAB monitoring and develop a web accessible probability of HAB occurrence model (i.e. How similar are the river conditions today compared to those in 2015 that produced the record HAB?)

The grant was partially funded which would allow for the development of a database of all the available information for the identified years. However, much of this is being accomplished by the UC Capstone Project, so this funding would instead be focused on analyzing the data.

A second phase of the project is planned as a joint effort between USEPA Regions 3, 4 and 5. If funded this phase would have as its goals to:

- Populate the functional database with discrete and continuous data from ORSANCO's archive as well as other partners on the river (i.e. applicable utilities).
- Focus data analysis to build a more biological-based risk characterization tool, substantiating the preliminary tool developed in 1st year.
- Support web-based visualization tool for ORSANCO web site users: Type-in location of interest on river; provide current river conditions based on nearest neighbor analysis; provide potential HAB formation probability estimate based on historical data.

Review of Pollution Control Standards

Staff provided an overview of the current review of the pollution control standards program. In June of 2015, the Commission established an ad hoc committee to review its role in water quality standards. The ad hoc committee developed a set of five alternatives for its future role in standards, along with a preferred alternative and a minority report. The preferred alternative essentially removes all criteria and mixing zone requirements from the standards. The minority report discusses the downside of the preferred alternative and suggests that an enhanced role by ORSANCO in harmonizing states' implementation of standards for the Ohio River is needed.

In October, 2017, the Commission authorized its Pollution Control Standards Committee to open an initial public comment period on the five alternatives under consideration. The public comment period opened on January 10 and was schedule to conclude on February 24. Staff made the usual public notifications of the public comment period and held two informational webinars. Staff then discussed in greater detail each of the five alternatives along with the preferred alternative, the minority report, and the mock-up of the pollution control standards based on the preferred alternative.

Staff then reviewed the schedule. The public comment period will close on February 24, after which staff would compile all comments for the standards committee. The standards committee would then review all public comments and consider making a recommendation to the full Commission at its June 2018 meeting. Should the Commission decide at its June meeting to move forward with one of the five alternatives, then a second public comment period would be held during July-August, which would facilitate the Commission taking a final action at its October, 2018 meeting.

Mercury Project Update

Commissioner Kupke provided some background on the project. During the 2015 and earlier public reviews of ORSANCO's standards, significant public concern was expressed regarding mercury. As a result, the Commission established an ad hoc committee on mercury to determine what studies were needed to adequately address the mercury issue. The ad hoc committee conducted an extensive literature review, prepared a concise, broad overview of mercury in a report entitled "A Summary of Mercury in the Ohio River", and recommended as a first step, a project to develop an Ohio River Basin mercury mass balance which seeks to determine Hg loadings to the Ohio River and their apportionment by source.

Staff then provided an overview of the project work plan and schedule with some details on how instream as well as point source mercury loads are being calculated. Finally, major tasks remaining to complete the project were discussed. The biggest item yet to be completed is the estimation of mercury loading from atmospheric deposition.

Ohio River CSO Abatement Report

Staff provided a report on the current status of the 48 Ohio River combined sewer overflow (CSO) communities, with details on each state and any changes from the previous year. There were 1,178 CSO's in 2017. Many communities appear to be making significant progress towards implementation of the nine minimum controls. Only pretreatment and proper operation and maintenance requirements are below a 90% implementation rate. All 48 CSO communities have submitted their LTCPs and eight LTCPs have not been approved by the state at this time. Staff also provided additional information regarding frequency of CSO bypasses for communities that had the data available.

Ohio River Stormwater Abatement Report

Staff reported on the current status of storm water (MS4) communities along the Ohio River, with details on each state and any changes from the previous year. There are 74 permitted MS4 (municipal separate sanitary storm sewer) communities/counties along the Ohio River. This is an increase of one from last year. Louisville, KY is the only Phase I community, while the remaining are Phase II. Indiana has 16 permittees, all of which are in compliance, and there have been no changes since 2015. Kentucky has 11 permittees, 6 of them are in full compliance, and there are no changes since 2016. Ohio has 15 permittees and 11 of them are in full compliance with no changes from last year. Pennsylvania has 20 permittees, all are in full compliance, and there were no changes from the previous year. Illinois does not have any MS4 communities along the river. West Virginia has 12 permittees which is one additional from last year, and one is in full compliance. WV monitors for nutrients and other parameters at each of the main outfalls.

One new development that concerns all stormwater communities is the federal EPA "MS4 General Permit Remand Rule." This new rule establishes two alternative approaches to issue MS4 phase II permits. It will promote greater public participation and clarify what is necessary to reduce pollutants to the maximum extent possible. In summary, there were very few changes that occurred from the previous year, most of the MS4 communities are in compliance, and the new remand rule should have little effect on Ohio River MS4's.

Member Updates and Interstate Water Quality Issues

Watershed Organizations Advisory Committee

Rich Cogen reported that the committee will be producing a comment letter regarding the public review of ORSANCO's pollution control standards. Certain individual members of the committee may also be submitting independent comments.

United States Geological Survey

Mike Griffin reported that the USGS has been without a Director for over a year, but has nominated Dr. James Riley to the Director's position which will need to go through the congressional process. The Indiana-Kentucky-Ohio science center will be participating in the NRSA program and will be sampling 37 sites in Indiana. They are partnering with the USACE to install and operate "super gages" monitoring stations on Harden and Brookeville reservoirs in Indiana to help with the nutrient reduction effort. In Ohio, they are working on real-time predictions of microcystin concentrations at water intakes. They are currently working with their state partners to maintain super gages on the Ohio River at Ironton and Olmsted, at the mouths of the Licking and Green Rivers, and possibly add stations on the Kentucky and Wabash rivers. They recently completed a two-dimensional model for thirty miles of the Wabash River that they can make available to partners.

West Virginia

Scott Mandirola reported on West Virginia's standards triennial review. A number of proposals will be considered by the state legislature culminating in 2019. They are proposing human health criteria updates, five additional aquatic life updates, a subcategory of use designation for historical mining-impacted waters which will utilize a use attainability approach, use of harmonic mean flow for human health criteria, inclusion of a modeling methodology for determining overlapping mixing zones, removal of a "never to be exceeded" requirement for carcinogens, and a "netting" provision for water quality effluent limits. In addition, they have completed a draft permit for the Chemours Washington Works facility. The M&G Polymer facility in Apple Grove has gone bankrupt but was recently purchased by another company. There is an existing consent order that will remain that addresses the discharge of 1,4-dioxane.

Ohio

Tiffani Kavalec reported that OEPA is opening up their rules regarding the cold water habitat definition, which includes language on fish, macroinvertebrates and associated plants. They are being challenged regarding the inclusion of plants, and what plants are included in the definition. They have convened a technical group to develop alternative language on this issue. They may be moving forward with new rules based on a peer-reviewed study recently completed entitled "Identification of Eutrophication Endpoints for Large Rivers in Ohio." Finally, they are poised to public notice a pipeline construction general permit. Such activities are exempt from Clean Water Act requirements, so this will require a state general permit for pipeline construction activities impacting areas greater than five acres.

Kentucky

Katie McKone reported that Kentucky will have a public meeting to begin their next standards triennial review in April, 2018. Highlights include updates to their exceptional waters listing for stream with excellent biological communities, clarifying language regarding Outstanding State Resource Waters, evaluation of their recreational standards to consider application during various conditions such as post-long term control plan implementation, use of use attainability analyses for CSO communities, as well as how assessments are completed relative to variations in flow. Kentucky's 2016 Integrated Report has been drafted and they anticipate submitting it to USEPA within a month. They continue to utilize remote sensing for HABs detection and are gearing up for the 2018 sampling season that will begin in March. The Kentucky River Basin will be their focus this year and they will be monitoring several direct tributaries to the Ohio River, while at the same time completing their state-wide probabilistic monitoring program. Regarding NPDES permitting, they are in the process of addressing a backlog in coal-fired power plant permits. All municipal wastewater treatment plants now have influent and effluent monitoring for nutrients.

Power Industry Advisory Committee

Rob Reash reported that the federal 3106b rule is currently under appeal, however utilities continue to move forward with compliance evaluations. The next big report due to the states are entrainment characterization studies which look at the survival of fish, eggs, and larvae through power plant condenser systems. Regarding the steam electric ELG (effluent limitation guidelines) rule, the USEPA is rethinking its requirements for FGD (flue gas desulphurization) wastewater and bottom ash transport, and has issued letters to many utilities for detailed information on FGD treatment technologies. The Supreme Court has ruled that the waters of the US rule litigation should be handled through the district court system. Finally, American Electric Power has proposed a wind farm in Oklahoma extending almost 300 miles with over 800 wind turbine units costing $5 billion. They will need to address threatened and endangered species issues as well obtaining approval from native American tribes that the wind farm will cross.

United States Army Corps of Engineers
Eric Emery reported that the Corps climate change report has been issued. The Corps is reenergizing the Ohio River Basin interagency team, formerly known as the community model team, for continued development of the Ohio River HEC-RAS flow model. They plan to organize another regional water quality workshop for December, 2019. They are completing a remote sensing project with the University of Cincinnati to prepare a "cook book" on how to utilize satellite data for remote sensing of HABs on specific waterbodies.

Water Users Advisory Committee
Bruce Whitteberry reported that the Water Users Advisory Committee met two weeks ago. Topics included the UC Senior Capstone project on HABs, a demonstration of the WaterSuite software for managing contaminant source inventories which is being utilized in a Cincinnati-area pilot project, and discussion of recent significant spills. The committee finalized a general scope for a work group to evaluate options for the next generation Organics Detection System. The work group is being led by Rengao Song of Louisville Water Company, and they plan to have recommendations ready by the October TEC meeting.

Indiana
Paul Novak reported that the Clifty Creek power plant's 316a thermal study is due to be submitted to IDEM in July, and IDEM extended the deadline for submittal of their 316b study to January, 2019. Vectren AB Brown power plant will be moving to dry bottom ash handling in 2020, and it is planned to close by 2023. IDEM has received the full 316a study for the ALCOA plant in southwest Indiana, as well as an application for the 316b study. The Savic facility is a direct discharge to the Ohio River and its NPDES permit is scheduled to be renewed this year, and they have submitted a full 316b report for the renewal. IDEM is and will be receiving many 316a and 316b studies in the near future, and they have been wondering if ORSANCO would like to have a role in reviewing those studies. Evansville's CSO LTCP was approved in 2017, and they have asked IDEM about modifications to design parameters for some of their projects.

Eileen Hack reported that IDEM has published a second public notice for metals rulemaking which would update their human health and aquatic life criteria. They will initiate a triennial review of their standards this year. A public hearing is tentatively scheduled for April 11. IDEM will be working on updates to aquatic life criteria to make Great Lakes and downstate criteria uniform. Downstate criteria will be updated to match the Great Lakes criteria. They are also planning to update human health criteria in the downstate criteria, and update the exposure factors for the entire state. They may be considering adopting some new aquatic life criteria as well. IDEM is in a pilot program with USEPA for nutrient criteria for inland lakes and they may be proposing a criterion for nitrogen associated with Microcystin in the fall.

Pennsylvania
Jennifer Orr reported that PADEP has appointed Tim Shaffer as the new Deputy Secretary for Water. Manganese criteria currently apply at the end of pipe, however they are considering changing the point of compliance to the next downstream water intake. There were some changes legislatively with the Pittsburgh Water and Sewer Authority to allow funds to be spent for replacement of the collection system on the privately owned side of the system. A number of power plants in the Pittsburgh area that were in a settlement with the Sierra Club require updated NPDES permits within the next two years. An applicant has proposed 26 or 28 "merchant hydro" facilities in the state, at least two of which are in the Ohio Basin. These hydropower facilities are closed-looped, pumped systems, and in some cases they are proposing to use mine pool water as well as river and lake water sources. There is current interest in a Shell ethane pipeline that will feed the Shell petrochemical facility (cracker plant). The Mariner East pipeline is planned to go through a convent, which is being opposed under religious rights laws. Pennsylvania is conducting a triennial review of their standards and is currently out for public comment. They are considering updates to their ammonia and E. coli criteria, as well as 73 human health criteria. They are also considering a wetlands condition index.

Summary of FY 2019 Program Recommendations

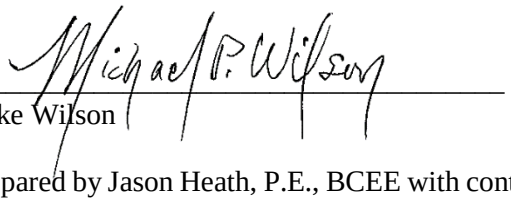
Staff summarized recommendations from the Technical Committee, as follows, which will be reported to the Commission's Program and Finance Committee during their meeting to develop the FY2019 program and budget:

1. Accept results of the 2016 Biological Pool Surveys.
2. Accept results of the 2017 Biological Pool Surveys regarding the fish population studies.
3. Analyze the fish and macroinvertebrate indices for seasonality effects.
4. Conduct biological pool surveys in the Emsworth and Pike Island Pools in 2018.
5. Conduct biological surveys of tributaries and hydropower facilities in the above two pools as recommended by the Biological Subcommittee.
6. Update PCBs, dioxin, and bacteria data as budgets may allow.
7. Evaluate trends in spills.

Adjournment

The 216th meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 11:55 am on Thursday, February 8, 2018.

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	Not present
Ohio	Tiffani Kavalec
Pennsylvania	Jennifer Orr
Virginia	Not present
West Virginia	Scott Mandirola
US Army Corps of Engineers	Erich Emery
US Coast Guard	Cdr. Molly Wike
US Environmental Protection Agency	Not present
US Geological Survey	Mike Griffin
Power Industry Advisory Committee	Rob Reash
Public Interest Advisory Committee	Not present
Water Users Advisory Committee	Bruce Whitteberry
Watershed Organizations Advisory Committee	Rich Cogen
ORSANCO Chief Engineer	Richard Harrison
Staff Liaison	Jason Heath

Commissioners/Proxies

Stuart Bruny, Craig Butler, Doug Conroe, Charles Duritsa, George Elmaraghy, David Flannery, Toby Frevert, Peter Goodmann, John Hoopingarner, Tiffani Kavalec, John Kupke, Ron Lovan, Scott Mandirola, Jennifer Orr, Ron Potesta, and Mike Wilson.

Staff

Ryan Argo, Dave Bailey, Steve Braun, Lisa Cochran, Stacey Cochran, Sam Dinkins, Joe Gilligan, Richard Harrison, Jason Heath, Eben Hobbins, Ryan Hudson (Seasonal Biologist), Travis Luncan, Rob Tewes, Vanessa Vest (Seasonal Biologist), Greg Youngstrom, and Lila Ziolkowski.

Guests

Celeste Bauer	Student, University of Cincinnati
Bill Boria	PIACO
Cheri Budzynski	Shumaker, Loop & Kendrick
Henry Connor	PIACO
Mark Kessinger	DLZ Corporation
Joe Lapcevic	First Energy Corporation
John Mangon	Hamilton County Soil $ Water
Heather Mayfield	FORE
John Myers	Student, University of Cincinnati
Chris Nietch	USEPA
Paul Novak	IDEM (NPDES Subcommittee Chairman)
Judy Petersen	PIACO
Jeff Thomas	EPRI
Lilit Yeghiazarian	University of Cincinnati