

OHIO RIVER VALLEY WATER SANITATION COMMISSION

MINUTES
213th Meeting of the Technical Committee
Embassy Suites RiverCenter
Covington, KY
February 7-8, 2017

Chairman Mike Wilson, Presiding

Call to Order

The 213th meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Tuesday, February 7, 2017. Six states, four federal agencies, and four Commission advisory committees were represented (for Roster of Attendance see page 11).

Minutes of 212th Committee Meeting

ACTION: Motion passed to accept the minutes of the 212th Technical Committee meeting.

Chief Engineer's Report

Director Harrison reported that ORSANCO's technical staff has been reorganized in conjunction with Jerry Schulte's retirement. Jason Heath is now leading the technical staff as the Technical Programs Director. Sam Dinkins is leading the source water protection and emergency response section as a Technical Programs Manager, and Jeff Thomas is leading the Monitoring and Biological section as a Technical Programs Manager.

Director Harrison then reported that ORSANCO has formed a HABs scientific work group to address and coordinate the various activities related to HABs on the Ohio River. He thanked Jim Lazorchak with USEPA Office of Research and Development in Cincinnati for coordinating an initial meeting of agency personnel, universities, water utilities, and ORSANCO staff to discuss the various activities occurring and planned relating to Ohio River HABs. This group will form the basis for the ORSANCO work group.

Staff has received a request from West Virginia American Water to add its Elk River drinking water facility in Charleston to ORSANCO's Organics Detection System (ODS). They are required to install an ODS-type monitoring system resulting from the Elk River MCHM spill. In addition, they have asked ORSANCO to conduct an evaluation of their monitoring system regarding its effectiveness in providing source water protection.

Resulting from a TEC directive at its previous meeting, staff submitted comments to IDEM on Duke Energy's Markland Dam hydropower water quality compliance plan during the public comment period.

Finally, Director Harrison thanked Ron Schwartz for his thirteen years of outstanding service to the Technical Committee.

Overview of ORSANCO Technical Programs for Development of FY18 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 FY18 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.

Eastern Mine Drainage Federal Consortium

Frank Borsuk, US EPA Region 3, provided an overview of the Eastern Mine Drainage Federal Consortium. EMDFC provides a forum to promote and coordinate the review of technical issues and policies regarding water quality as they relate to mining and reclamation activities in the Eastern United States. It is intended to facilitate a coordinated response among federal agencies (Office of Surface Mining and US EPA) to acid mine drainage issues in the Eastern U.S. The Consortium will consult with the states, industry, academia and the public as appropriate. One successful outcome of the consortium was development of the Appalachian Clean Streams Program in 1995, which is now a \$10 million annual program to restore streams damaged by acid mine drainage.

The consortium's current focus is on flooding mines and impacts on water quality resulting from acid mine drainage in the Pittsburgh Seam. Active mines have been pumping and treating drainage from abandoned mines for decades. As these active mines close, regulators may face the prospect of untreated water being discharged into streams. Needed are basin-wide tools to allow agencies and industry to develop strategies to protect the region's streams. Ultimately, a long-term management plan for the region is needed.

Overview of the Pittsburgh Seam Mine Pool Drainage

Dr. Joe Donovan with the Hydrology Research Center at the WVU Water Research Institute provided an overview of the Pittsburgh Seam mine pool flooding and drainage issue. The Pittsburgh Coal Seam is located in southwestern Pennsylvania and northern West Virginia including areas along the Monongahela and Ohio rivers. He discussed the hydrogeology of the Pittsburgh seam and why abandoned mines become flooded. Mine pool water can be either alkaline or acidic. The mine pool drainage issue is predominantly problematic for mines closed prior to enactment of the Surface Mining Control and Reclamation Act of 1977, through which mine owners were required to control mine drainage after closure.

Dr. Donovan presented results of a project to map all the Pittsburgh Seam mines and mine pools which is current through 2004. Mine pool levels have been monitoring since 1998 through the present. Total mine discharges over time have been estimated and he presented maps displaying these data. Discharges of mine pool water have been increasing over that period, however those increases involve treated mine water. In 1980, most of the abandoned mine drainage was untreated and totaled 88,000 gallons per minute (gpm). Today, in addition to the continued discharge of the untreated mine water, there is an additional twenty eight percent (approx. 25,000 gpm) of mine water that is being treated, for a total of 113,000 gpm of combined treated and untreated mine water.

The water quality of discharges from abandoned mines tends to improve over time such that many discharges are now not acidic. As a result, fisheries of the Monongahela River and tributaries have substantially improved over the previous 35 years. However, active mines today tend to have higher levels of total dissolved solids which are difficult to treat. In addition, seasonal variation in flow direction from these mine discharges tends to complicate the picture. Potential future insolvency of mine owners is a significant concern regarding continued treatment of discharges from closed mines.

Water Quality Management Implications of Mine Pools in the Upper Ohio Basin

Dr. Paul Ziemkiewicz, Director of the WVU Water Research Institute, remarked that resulting from the Eastern Mine Drainage Federal Consortium efforts, there was recognition that there was a need for monitoring the rivers and streams in the upper Ohio Basin in order to develop long-term solutions for managing mine discharges.

This effort was initiated after the occurrence of high TDS levels in the Monongahela River in the summer of 2008. As a result, the Three River QUEST Program was born and a monitoring network was established to develop a loading model for the Allegheny, Monongahela, and upper Ohio rivers. The monitoring network consists of monthly monitoring, targeted studies, and collaboration with volunteer monitoring groups.

Ohio River data near Pittsburgh showed decreasing trends in chloride along with wintertime spikes due to road salt runoff, and a slight increasing trend in sulfate but not at levels of concern. In general, monitoring results indicate flat or downward trends in parameter concentrations. In particular, bromide has been trending downwards, particularly since Pennsylvania disallowed the disposal of oil and gas produced water at wastewater treatment plants in 2011. More recently, they have been investigating relationships between bromide, chloride, temperature, and the formation of trihalomethanes which are regulated compounds in finished drinking water, and have found that more trihalomethanes are formed during warmer temperatures. But again, seasonal variation in water chemistry data complicates the interpretation of data analyses. Sulfate data from their monitoring stations indicated that higher TDS levels were a result of mine drainage. This data was used to convince mine operators to change their water management strategy by pumping more mine water during the wintertime, thereby keeping sulfate and TDS at acceptable levels for use by water utilities in the summer. The direct positive result of this effort was that the Monongahela River was recently delisted as impaired based on sulfate levels.

Ron Schwartz asked if there was any data to indicate whether mercury was an issue in mine drainage water. Dr. Ziemkiewicz indicated that historically, mercury has not been found in mine drainage waters and therefore is not included in their sampling program. Additional information on their program can be found at <http://3riversquest.org>.

Report of the BWQSC and SAV Study Update

Staff presented the report of the Biological Water Quality Subcommittee which included an overview of 2016 activities, a summary of subcommittee recommendations, and results of the Submerged Aquatic Vegetation (SAV) study. Regarding 2016 activities, fixed station results were similar to those of previous years, with mORFIn scores in the middle to upper ranges for most sites. Fish survey results indicated Willow Island pool to be in 'Good' condition and Greenup and Cannelton pools to be in 'Very Good' condition. Macroinvertebrate sampling was completed successfully in all three survey pools with results due back later this spring. In addition, a third year of nutrient data were collected alongside the biological data from all three pools. A side project conducted at no cost to ORSANCO included sending sediment and gastro-intestinal tracts from fish to Loyola University for microplastics analysis. Results of this study are anticipated in early spring. Lastly, staff gave a brief update on the 604(b) fish contaminant project being conducted on behalf of WVDEP mentioning that most sampling has been completed with one final visit to each of the seven locations planned for spring of 2017. Rob Reash suggested adding Selenium to the list of analytes.

The BWQSC recommendations included:

1. Accept 2016 fish survey results indicating Willow Island, Greenup, and Cannelton pools as being in 'Good' or better condition.
2. Incorporate SAV survey techniques into routine monitoring efforts and continue to observe and quantify its effects on biological indices.
3. Pursue NRSA sampling in 2018-2019 and consider including sites outside of the Basin, acknowledging that routine biological monitoring may need to be reduced during the two years.
4. Continue to consider biological condition gradient applications for the Ohio River and the basin, but do not expend significant resources at this time.
5. Conduct probabilistic sampling in New Cumberland, Meldahl, and Newburgh in 2017 in conjunction with the highest ranking special study as determined by the BWQSC.

The special studies considered by the BWQSC included those from 2016 with several additional options, including: Adding water chemistry sampling at fixed stations, adding water/sediment chemistry at probabilistic locations, conducting biological sampling below hydropower facilities, submerged aquatic vegetation (SAV)

surveys, biological surveys of the lower reaches of direct tributaries. In-season revisits ranked highest and staff proposed a plan that would address all six if resources allow.

Staff is currently determining ORSANCO's role in the 2018-2019 NRSA surveys. Sites have been offered to ORSANCO in PA, OH, KY, IN, and IL, exceeding the capacity crews would have for sampling. A proposal was presented to sample all sites in Ohio and Kentucky as well as those within the Ohio River Basin in Pennsylvania, representing a total of 94 sampling events. Staff addressed a question from Paul Novak regarding why the BWQSC would favor reducing routine efforts in favor of NRSA sampling by mentioning that the decision was largely driven by the recently completed five year budgetary forecast which highlighted a need for exploring additional resources.

Staff conducted a special study in 2016 in the Willow Island pool to quantify effects of SAV, particularly Hydrilla, on index scores and assessments. Preliminary analyses showed fish community groupings associated with Hydrilla and associations between an exotic fish species (Banded Killifish) and an exotic plant (Eurasian Watermilfoil), as well as Hydrilla attraction and avoidance by some native fish species. Data from Willow Island from 2016 compared to data collected prior to Hydrilla's introduction in the river (<2006) indicated habitat preference shifts for some native fish species associated with Hydrilla. Analyses are on-going.

Bacteria Trends Assessment

The Commission has routinely monitored bacteria levels in the six major combined sewer overflow communities (i.e. Pittsburgh, Wheeling, Huntington, Cincinnati, Louisville, and Evansville) since the early to mid 1990's. Since that time, municipalities have invested significant resources to reduce the amount of untreated sanitary wastewater that is discharged to the Ohio River and its tributaries. Staff has undertaken a review of existing bacteria monitoring data to evaluate possible trends in bacteria concentrations over the past 20 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.
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, variability also increases as flow and precipitation increase.
Staff will continue to evaluate the bacteria data to assess trends and will provide the Technical Committee a written report for review in 2017.

Report of the Monitoring Strategy Subcommittee

Staff reported that the Monitoring Strategy Subcommittee met by conference call on January 18 to begin work on a revision to ORSANCO's monitoring strategy. An updated strategy is a requirement for US EPA Section 106 funding which the Commission receives. Five states and three federal agencies participated in the call. Objectives of the revision are to fulfill 106 grant requirements, obtain input from the states on each of our

monitoring initiatives and to make changes to ORSANCO's monitoring programs when desirable based on that input, and to lay out a plan to develop a GIS data base of all monitoring activities in the Ohio Basin.

Ohio River CSO Abatement Report

Staff provided a report on the current status of the 49 Ohio River combined sewer overflow (CSO) systems having a total of 952 CSO outfalls which ultimately discharge to the Ohio River. 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 49 CSO communities have submitted their long term control plan (LTCP) and eleven LTCPs have not been approved 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 was presented. There are 73 permitted MS4 (municipal separate sanitary storm sewer) communities or counties along the Ohio River. This is an increase of 4 from last year. This change occurred because two permits in Ohio divided into 6 different permits. 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 were no changes from the previous year. Kentucky has 11 permittees, 6 of them are in full compliance, and there are no changes from the previous year. Ohio has 15 permittees and 14 of them are in full compliance. 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 11 permittees 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.

Source Water Protection Programs Update

Staff presented a source water protection program update which included a status inventory of source water protection assessments and plans that have been developed for Ohio River drinking water utilities. Source water assessments for water utilities were completed in the late 1990's and early 2000's and included delineation of source water protection areas, inventory of potential contamination sources, and a water supply susceptibility assessment. These assessments have become outdated.

The states and water utilities have recognized the need to update the assessments and develop plans of action to protect water supplies. Source water protection plans go beyond the initial assessment with additional elements such as water quality monitoring, contingency planning, risk reduction strategies, and public education and outreach. Ohio River utilities are in various stages of source water protection plan development ranging from some needing to update the initial assessments performed in the late 1990's to others which have just recently completed updated plans. ORSANCO staff will continue to work with the states and drinking water utilities to facilitate the development of source water protection plans along the Ohio River.

Greater Cincinnati Water Works/Northern Kentucky Water District Joint Source Water Protection Plan

Rich Stuck with the Greater Cincinnati Water Works (GCWW) and Amy Kramer of the Northern Kentucky Water District (NKWD) presented on their utilities' efforts over the past four years to develop a joint source water protection plan. Many challenges were noted including a very large upstream watershed, complex risk scenarios, large number of potential contaminant sources, and multi-jurisdictional issues.

The plan addresses two zones of concern. The Zone of Critical Concern extends 25 miles upstream from the water intakes and includes a 0.25 mile corridor on each bank. The Zone of High Concern also extends 25 mile upriver from the point of intake, but extends laterally from the river's edge to boundaries of the local watershed. This area includes 259 square miles within Ohio and Kentucky. Many potential threats exist within this zone including pipeline breaks, barges accidents, train derailments, and large volume chemical storage or coal ash lagoon releases.

A unique element of the program referred to as the Source Water Defender Program will recognize businesses for their stewardship to protect the local water supply. The draft GCWW/NKWD Joint Source Water Protection Plan is in the final stages of review and is anticipated to be submitted to Ohio EPA and Kentucky DEP for endorsement in the coming months.

Member Updates and Interstate Water Quality Issues

Indiana

Eileen Hack reported that Indiana has a new Governor, Eric Holcomb, and a new IDEM Commissioner, Bruno Pigott. IDEM monitoring and assessment staff continues to work on their probabilistic monitoring survey results for tributaries in the lower Ohio River Basin. Regarding the Markland hydropower 401 certification process, Duke Energy has incorporated all of ORSANCO's comments into a revised operational plan. IDEM is also requesting that they conduct vertical water surveys every other year over the next five years to demonstrate their aeration capacity at the facility, after which they may be allowed to conduct vertical surveys once every five years. Indiana is in the process of exploring establishment of a new port on the Ohio River, the location for which has not yet been determined. Paul Novak reported that the IDEM is working with the City of Jeffersonville and USEPA Region 5 to possibly reopen their combined sewer overflow consent decree to address costs for controls which are now much higher than originally anticipated. Jeffersonville's permit was reissued with a 1 mg/L phosphorus limit. The City of Evansville's permits (2) have been reissued with 1 mg/L phosphorus limits for both treatment plants. Their CSO consent decree was finalized late last year and they are now beginning implementation of CSO controls. The Indiana-Kentucky Electric Corporation Clifty Creek power plant permit has been public noticed and expected to be finalized in February. It includes requirements of the Steam Electric Power Generating Effluent Guidelines. Vectren's A.B. Brown and F.B. Culley power plants' NPDES renewal permits have been public noticed. These permits include requirements in the Steam Electric Power Generating Effluent Guidelines. The Brown plant is proposed to be closed in 2023. One of two generating units is proposed for closure at the Culley plant. Recently, IDEM has been addressing issues relating to the closure of power plant ash ponds and how to handle discharges from dewatering these ponds in the permit renewals.

Ohio

Erin Sherer reported that two NPDES permits for the proposed PTT Global Chemical petrochemical plant in Belmont County have been finalized. Two permits were issued based on two separate plant design alternatives, although the company remains to make a final decision regarding construction of the facility. The air permit for the facility is still in draft. Ohio EPA is in the process of finalizing the Steubenville long-term control plan and NPDES permit. Steubenville has been using PAA (peracetic acid) for disinfection. Ohio EPA has developed a water quality criterion for PAA and they are working to incorporate it into that permit. A general permit is currently out for public notice requiring water treatment plants to monitor for microcystin during HABs events exceeding the recreational threshold of 20 ug/L. Ohio EPA released in December, 2016, a nutrients mass balance study for a significant portion of the state. The study found that the Scioto River is the largest contributor of phosphorus (in Ohio) to the Ohio River. It also concluded that the largest point source contributions of phosphorus in Ohio are from discharges to the Ohio River. This is because major wastewater discharges in Ohio outside of the Ohio Basin already have 1 mg/L limits for phosphorus in their permit. Subsequent to release of this study, Ohio EPA released an update to its nutrient reduction strategy which addresses the Gulf of Mexico hypoxia issue.

Public Interest Advisory Committee (PIACO)

Betsy Mallison reported that PIACO met on February 7. They discussed issues involving the sustainability of the mobile aquarium program. They also discussed outreach materials such as the "State of the Ohio River"

report that could be used with the aquarium. They discussed ORSANCO's website, how to conduct public outreach utilizing information on the website, and possible inclusion of products from ORSANCO's new drone on the website.

Pennsylvania

Dana Drake reported on an interstate issue involving the Bruce Mansfield power plant on the Ohio River. Through a consent decree, they are required to cease disposing of their coal combustion residuals at the Little Blue Run impoundment in West Virginia. As a result, they are currently barging the waste to a mine disposal site in West Virginia. Approximately two weeks prior to the TEC meeting, the company EQT was boring underground near the Monongahela River and intercepted an abandoned mine. This caused acid mine drainage to discolor the Monongahela River bright orange for approximately five miles. The state is currently working with the company to completely cease the discharge, although the company has taken some steps and the river is no longer orange. PADEP is currently moving forward with the triennial review of their standards which will include a proposal to add E. coli criteria. A criterion for chloride for aquatic life protection has been withdrawn from the proposal due to issues raised by US EPA. A public hearing was held in December on the draft permit for the Shell petrochemical plant, and PADEP is currently working through the public comments.

United States Geological Survey

Mike Griffin reported that the USGS has a new Acting Director, Bill Werkheiser, who comes from the water sector of the agency. There is a hiring freeze which is affecting their seasonal hires and replacing retirements, and they have been advised to plan for a five percent budget cut. The IN-KY Science Center has a drone. The operator licensing requirements under the FAA has taken over a year to obtain. They have been working with the Kentucky Farm Bureau and Kentucky Water Board to identify new locations for water quality and quantity stream gauges. They are investigating "super gauges" for the outlets of the Kentucky River Basin and Salt River Basin, similar to what has been installed on the Licking and Green rivers. They are conducting intensive sampling on Nolin Lake to determine water quality dynamics. Through a partnership with the Indiana DOT, they have installed five new stream gauges in Indiana. They have also added stream gauges in Kentucky through partnership with KY DOW and the USACE. They have added real-time groundwater monitoring through their Climate Response Network including four wells in Kentucky, while Indiana has nine wells. They have released a new water use interactive map on their website. They are working with the Nature Conservancy to develop a regional continuous nutrient monitoring network. The USGS is also working on the Mississippi Rivers and Towns Initiative which primarily deals with collecting water quality information on the mainstem of the Mississippi River. He indicated they would be working with the Ohio River Basin Alliance and ORSANCO to pull the Ohio River into the initiative as a major tributary to the Mississippi River.

Kentucky

Mr. Goodman reported that KY DOW is waiting on US EPA Region 4 to approve removal of their acute selenium criterion of 20 ug/L. Kentucky did not experience any significant HAB events in 2016. They are beginning discussion on the next triennial review of their water quality standards for 2018. They are working on coal-fired power plants to incorporate Clean Water Act 316(b) requirements, Steam Electric Power Generating Effluent Guidelines (ELGs), and Coal Combustion Residuals rule (CCR) requirements into permits. All of Kentucky's CSO long term control plans have finally been approved. They have convened a water resources board based on a bill passed during last year's General Assembly to begin development of a long-term, state-wide water resources plan.

Power Industry Advisory Committee

Mr. Reash reported that the Clean Power Plan requiring reductions in greenhouse gases from coal-fired power plants has been stayed and is awaiting review by the U.S. Supreme Court. The CWA 316b and ELGs rules are in various stages of litigation, however utilities are moving forward to implement the existing rules. US EPA has released draft implementation guidance on the revised selenium criteria. A national utility group has submitted concerns on this guidance that under some scenarios, the more stringent water criterion would need to be achieved even though the fish tissue criterion was being met. US EPA recently released draft guidance on development and implementation of conductivity criteria. Some of the proposed eco-regional criteria are very low. At the same time, US EPA is working on a multi-ion model for regulating a composition of the various ions, as opposed to the simplistic conductivity criterion. Finally, in Washington State, the US EPA has

disapproved some of their human health criteria because they do not reflect fish consumption rates assumed for some Native American communities.

Watershed Organizations Advisory Committee

Judy Petersen reported that a key concern with many of the organizations involved in WOAC is the proliferation of oil and gas infrastructure. We believe these facilities pose significant risks to the Ohio River and would like to know if ORSANCO has any plans to deal with the issues. Briefly, we are aware of these threats to Ohio River water quality:

- 2 planned cracker plants (near Beaver, PA, and in Ohio - near Wheeling, WV)
- At least 7 large diameter pipelines proposed, and in the FERC approval process, which will either parallel, border or cross the Ohio River, and/or major tributaries of the Ohio.
- Gas drilling and hydraulic fracturing under the Ohio River with well pads located adjacent to the Ohio River - some in the Wayne National Forest on lands that BLM has approved for lease.
- Hundreds of oil and gas waste disposal and processing facilities located along the Ohio River. The Coast Guard has approved shipments of oil and gas waste products via barge on a "case by case" basis with no public input process.
- Rogersville shale exploration and development; this field runs under the Ohio River and under portions of Southwest WV & Eastern KY. This formation likely contains oil and/or other "wet gas" contents.
- Peer reviewed studies (such as the one in PA) that show an increase in radiation for oil and gas wastewater released around wells.
- The Natrium plant, in Marshall County, WV, located adjacent to the river and within a flood plain, has already been cited for pollution violations. A massive underground storage facility for ethane in 'salt caverns', to be located in Monroe County, OH, will connect with the Natrium plant, resulting in highly volatile products being shipped across or under the Ohio River via pipelines.

We would hope ORSANCO would respond to these new threats to the Ohio River by monitoring organics like benzene more frequently and in numerous areas around major city intake lines. Overall, we would like to know how ORSANCO plans to increase monitoring for both radiation and organics like Benzene, given that we know these are two byproducts of the Unconventional Oil & Gas Development (UOGD) process are likely to pollute the river in increasing amounts.

Hank Graddy would volunteer to represent our committee if there is an opportunity for a WOAC committee member to participate on any spill response ad-hoc committees.

Finally, some of you may know, I will soon be stepping down as executive director of KWA, and I have a conflict for the June ORSANCO meeting. It is likely that KWA's Water Policy Director, Bijaya Shrestha will represent the committee at the June meeting. Rich Cogen, Ohio River Foundation, is Chair -Elect and will take over after the June Commission meeting.

United States Army Corps of Engineers

Eric Emery reported that on December 6-8, he convened, in conjunction with the USEPA in Cincinnati, a water quality workshop focusing on the Ohio River Basin. There were over 100 participants with an additional 15-20 attending by webinar. The Corps will be providing staff for the next Water Users Advisory Committee to brief the committee on its operation of the reservoir system and Dams.

West Virginia

Scott Mandirola reported that West Virginia has a new Governor, Jim Justice, and a new Secretary of the Department of Environmental Protection, Austin Caperton. The triennial review of water quality standards is currently under consideration by the legislature. A significant change is from using the seven-day, ten-year low flow, to using the harmonic mean flow, for calculating permit limits for drinking water criteria. They have completed selenium implementation guidance and are now approving plans for facilities to develop bioaccumulation rates for use in developing future permit limits. The construction of new, large pipelines is currently a big issue for multiple departments in the state. They have gone out to public notice regarding the Mountain Valley Pipeline project for the 401 water quality certification permit, the stormwater construction

permit, and the Stream Protection Act permit. The Rover Pipeline project will cross the Ohio River by boring under the river from Ohio to West Virginia. They are currently in the process of completing the 401 water quality certification for that project and will be going to public notice shortly. The state is currently working on 25 individual 401 water quality certifications including for a hydropower facility on the Monongahela River at the Morgantown Lock and Dam. The Dupont Washington Works permit should be reissued this quarter along with permits for two landfills along the Ohio River. On January 20, there was a black water spill to Fish Creek immediately upstream of the Ohio River from a coal impoundment caused by excessive precipitation events. Murray Energy corrected the situation promptly. There are currently two oil and gas wells being permitted in Ohio that will be drilling underneath the Ohio River. West Virginia has been working with Ohio since West Virginia owns the rights under the river, while the drilling and production will take place on the Ohio side.

Water Users Advisory Committee

Bruce Whiteberry reported that the Corps spoke on the operation of their reservoirs, flood control, and navigation system at the last advisory committee meeting on January 18-19. The committee also learned about the cooperative effort by Greater Cincinnati Water Works and Northern Kentucky Water District to develop a joint source water protection plan. There have been no major spills or adverse water quality issues for the utilities since the last TEC meeting. However, some of the utilities reported higher than typical THMs (trihalomethanes) recently in finished water in addition to the use of more coagulants than usual in their treatment processes. The two may be related and may be the result of a warmer winter than typical this year.

Virginia

Melanie Davenport reported that Alan Newman, who served on ORSANCO's Technical Committee for many years, retired from VA DEQ in December. She reported that Virginia has issued NPDES permits to most power generating facilities having coal ash ponds. These permits implement the federal coal combustion residuals rule (CCR). The permits include metals and whole effluent toxicity limits. One permit was disputed in the courts and VA DEQ won the case because their permits were protective of water quality and consistent with the federal rule. Virginia has three CSO communities, two of which have been under consent decrees for decades, the exception being the City of Alexandria. Alexandria owns the collection system but does not operate the treatment facility. The legislature is currently considering options to address these CSOs. They will be taking the 316b rules to the Virginia Water Control Board for adoption. Virginia is also dealing with permitting of pipelines including the Mountain Valley Pipeline and the Atlantic Coast Pipeline.

Summary of FY2018 Program Recommendations

Staff summarized program recommendations as follows from the meeting which will be presented to the Commission's Program and Finance Committee at its April meeting:

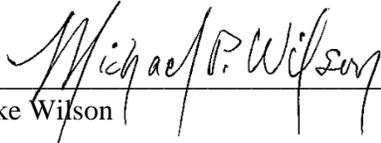
1. Accept results of the 2016 fish surveys indicating Willow Island, Greenup, and Cannelton as being in 'Good' or better condition.
2. Incorporate the new SAV survey technique into routine monitoring efforts & continue to observe and quantify its effect on biological indices.
3. Pursue sampling NRSA sites in 2018-2019, even at the expense of reducing routine efforts, and consider including sites outside of the Ohio River Basin as warranted.
4. Continue to consider Biological Condition Gradient applications for the Ohio River and the basin, but do not expend resources to pursue at this time.
5. Conduct probabilistic sampling in New Cumberland, Meldahl, and Newburgh in **2017** and conduct the highest ranking special study as determined by a review of the BWQSC
6. 2017 Special Study Proposals (conduct as many as possible as resources allow)
 - a. Collect water chemistry from fixed stations.
 - b. Collect water/sediment chemistry at fish/bug sites.
 - c. Targeted sampling to determine hydropower impacts.
 - d. Determine effects of Hydrilla on biotic indices (2nd Year).
 - e. Biological surveys of lower reaches of direct tributaries.
 - f. Conduct same-year revisits to estimate mORFIn precision.
7. Complete monitoring strategy.
8. Compile states' and federal agencies' monitoring programs into basin-wide GIS.

9. Complete the 2018 305b Assessment for Ohio River.
10. Add WV American Water Charleston, WV utility to the ODS Network including an evaluation of their source water monitoring program.
11. Continue to evaluate ORSANCO's role in coordination of interstate source water protection initiatives.

Adjournment

The 213th meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 11:25 am on Wednesday, February 8, 2017.

Approved:



Mike Wilson

Prepared by Jason Heath, P.E., BCEE with contributions from Sam Dinkins, Jeff Thomas, Stacey Cochran and Steve Braun.

(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	Peter Goodman
Ohio	Erin Sherer
Pennsylvania	Dana Drake/Ron Schwartz
Virginia	Melanie Davenport
West Virginia	Scott Mandirola
US Army Corps of Engineers	Erich Emery
US Coast Guard	Eric Denley
US Geological Survey	Mike Griffin
Power Industry Advisory Committee	Rob Reash
Public Interest Advisory Committee	Betsy Mallison
Water Users Advisory Committee	Bruce Whitteberry
Watershed Organizations Advisory Committee	Judy Petersen
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, Kelly Heffner, Tiffani Kavalec, John Kupke, Ron Lovan, Bruno Pigott, Ron Potesta, and Ross Wales (legal counsel).

Staff

Ryan Argo, Dave Bailey, Steve Braun, Lisa Cochran, Stacey Cochran, Sam Dinkins, Joe Gilligan, Eben Hobbins, Travis Luncan, Rob Tewes, Jeff Thomas, Greg Youngstrom and Lila Ziolkowski.

Guests

Kenny Akins	Westlake Chemical
Bill Boria	PIACO
Cheri Budzynski	Shumaker, Loop & Kendrick
Reed Coen	PIACO
Joe Donovan	West Virginia Water Resources Institute, WVU
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Heather Mayfield	Foundation for Ohio River Education
Katie McKone	Kentucky DOW
Paul Novak	IDEM (NPDES Subcommittee Chairman)
Ron Riecken	PIACO
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Deborah Roth	Ohio EPA
Audrey Rush	Ohio EPA
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