

OHIO RIVER VALLEY WATER SANITATION COMMISSION

Agenda Item 1 attachment
215th Technical Committee Meeting
October 3-4, 2017

MINUTES
214th Meeting of the Technical Committee
West Baden Springs Hotel
West Baden Springs, IN
June 6-7, 2017

Chairman Mike Wilson, Presiding

Call to Order

The 214th meeting of the ORSANCO Technical Committee was called to order by Chairman Wilson at 1:00 pm on Tuesday, June 6, 2017. Seven states, two federal agencies, and four Commission advisory committees were represented (for Roster of Attendance see on page 10).

Minutes of 213th Committee Meeting

ACTION: Motion passed to accept the minutes of the 213th Technical Committee meeting.

Chief Engineer's Report

Director Harrison recognized Commander Denley with the US Coast Guard, Tim Henry with USEPA Region 5, and Judy Petersen with Kentucky Waterways Alliance for their service to the Technical Committee. He then reported that staff will be traveling to West Virginia American Water in Charleston, WV regarding their request to add that facility to ORSANCO's Organics Detection System. He indicated that staff would be requesting voluntary assistance through additional resources for the Commission's source water protection efforts. ORSANCO staff has been interfacing with the Ohio River Basin Alliance regarding ORSANCO's role in water quality for the Basin. Some of the discussion has involved the potential development of a basin-wide geographic information system for water resources.

Director Harrison then provided a high-level overview of the Commission's program and budget, including a list of incremental reductions developed in the event that future budget reductions are necessary. Due to expenditure reductions primarily in the administrative areas, there is no budget shortfall for FY18. In planning for the next 5-year period, staff will continue working to develop strategies to minimize shortfalls over that timeframe. These projections do not include reductions in the President's proposed budget, which could create a \$420,000 shortfall in CWA Section 106 federal funding. In addition, staff is planning to complete NRSA sampling at more than 90 sites that will generate almost \$200,000 in additional revenues. Staff is also considering requests to utilities and industry for voluntary funding opportunities. Staff will also be investigating with the states possible 604b funded projects and SRF funding that can generate some additional revenues.

Finally, Director Harrison reported on the significant amount of media attention developing regarding the presence of PFOA (Perfluorooctanoic acid, also known as C-8) in the Ohio River. It became a concern in the last decade due to widespread contamination from the DuPont Parkersburg plant which generated present day court cases with recent media attention. He indicated that staff is working with USEPA research personnel in Cincinnati to develop a project in follow-up to a joint ORSANCO/USEPA study completed in 2010. USEPA has preliminarily agreed to run the analyses at no cost to ORSANCO such that a modest follow-up study looking at how PFOA may have changed in the Ohio River over the past almost decade would be extremely cost-effective. The committee had no concerns with pursuing this project.

Mr. Frey indicated that the Great Lakes Restoration Initiative is conducting a similar study of PFOA, and that Martin Risch with the USGS Indiana Science Center is involved in that project. Mr. Goodman indicated that with the amount of historic data that ORSANCO has, a new survey might be able to quantify the variability such that good decisions could be made with regard to reducing the amount of future monitoring needed. He indicated that ORSANCO's monitoring programs are of value to Kentucky, and that ORSANCO's monitoring activities should be prioritized in case future program reductions are necessary.

Nutrients Project

Ryan Argo gave an overview of the rationale behind ORSANCO's approach to nutrient criteria development and detailed the current status of field activities and analyses. Highlighting the consistency between ORSANCO's approach with EPA recommendations, staff presented current results relative to each step in the development process. Staff presented preliminary results investigating linkages between nutrients-productivity and productivity-dissolved oxygen in ORSANCO's nutrient data set. Staff will further investigate linkages between dissolved oxygen metrics and macroinvertebrate metrics as more data become available. Staff indicated that there is a lot of effort being put forth towards quality assurance activities involving screening of the dissolved oxygen sensor data to ensure that erroneous data are removed from each of the data sets. Because the dissolved oxygen data is collected with continuous monitors that are left in place for six weeks, there are many instances in which portions of the data sets need to be censored.

Mr. Reash asked how staff is accounting for confounding abiotic variables other than nutrients that affect macroinvertebrate communities. Mr. Argo indicated that they will certainly address hydrilla as a confounding abiotic variable and they will do their best to address other confounding variables as the data collected will allow. Mr. Frey asked whether there was a focus on slower moving waters behind dams, and staff indicated that sites are selected randomly, so there would most probably be some data from slower moving waters. Mr. Goodman indicated that the data is highly variable with many factors potentially affecting macroinvertebrates, but that there does not appear to be an apparent threshold in the data that was presented, and also that nuisance species would probably have the greatest impact on interfering with the nutrients-macroinvertebrate relationships. Mr. Goodman further indicated that it might be better to investigate technology-based limits rather than continuing to work on water quality-based criteria due to the complexities involved. Staff indicated that hydrilla in the upper river is by far the most important nuisance species, and staff continues to have discussions with the biological subcommittee about how to address it.

Harmful Algal Blooms

Greg Youngstrom presented several items related to HABs, including a white paper on lessons learned, establishment of a HABs scientific work group, review of the HABs response and communications plan, and information on the Ohio River HABs monitoring network.

ORSANCO produced the white paper which consolidates all of the "after action" reports, as well as changes and improvements made to the HAB Plan after the 2015 HAB. Some questions remain, with the largest being the causes of the HAB. USEPA has submitted a proposal for a RARE Grant to address this issue. USEPA will be informed if this grant proposal is successful in the summer of 2017. The new HABs Scientific Work Group had its first meeting by conference call on May 19. The initial discussion revolved around identifying other potential researchers who would be interested in joining the group, as well as which outside groups would be interested in the output from this group. It was proposed that these outside groups join in for a meeting to see where their interests coincide. For instance, the Corps of Engineers could discuss HAB issues with their reservoirs and seek collaboration. There was also discussion on what monitoring was being conducted in the Ohio River Basin. The next meeting of the group will be by conference call in September 2017.

The HABs Response and Communications Plan calls for an annual review to ensure its continued effectiveness. The only change to the Plan for 2017 is that ORSANCO will act as a central repository for data during any HAB response. Regarding the Ohio River HABs monitoring network, staff presented plans to install 2 data sondes with telemetry for monitoring HABs. The data sondes will be placed at Pike Island L&D (near Wheeling, WV) and Meldahl L&D (near Cincinnati, OH). Data from these systems will be available in real-time on ORSANCO's web site. Additionally, ORSANCO will be assisting Marshall University with installing two additional data sondes, one at RC Byrd L&D (upstream of Huntington, WV) and the other at Greenup L&D (upstream of Portsmouth, OH). ORSANCO will be collecting the data from these systems which will also be available on the website.

Mr. Frey asked whether soluble reactive phosphorus or orthophosphate could be collected in the future. A recent study showed that the ratio of orthophosphate to nitrate has changed dramatically since 1995 which may be involved in the increased occurrence of HABs more recently, therefore tracking that might prove useful as an explanatory variable.

Mercury Project

Jason Heath presented an overview of the mercury project which is to conduct a large scale mass balance of mercury in the Ohio River and from its major tributaries, as well as from point sources and atmospheric deposition in the Ohio Basin. Water surveys are being or have been completed to quantify instream mercury loads in the Ohio River and its 15 largest tributaries which account for approximately 86% of the total flow on average. Staff will utilize the USEPA's national database to estimate mercury loads from point sources, and atmospheric data will be utilized to make a very broad estimate of mercury contributions from atmospheric deposition.

Eben Hobbins then presented a summary of five ORSANCO mercury water monitoring projects from 2010 through 2017. The data is gathered from historical monitoring and site-specific investigations as directed by the Mercury Workgroup Project. Three site-specific bioaccumulation studies and the results of the major tributary monitoring project were combined for the assessment of mercury mass loads. Calculation of mercury loads by linear regression shows large differences in tributary loads and yields (load normalized by drainage area - lbs THg/year/mi.²). Confidence intervals for the loads presented were not final, additional measures of model strength will be used to present confidence prior to written reporting. Technical Committee members were interested in more work to indicate the causes of tributary loads; specifically land use, reservoir projects, and air deposition differences.

Following Mr. Hobbins, a presentation was given by Steve Braun to inform the Technical Committee of how ORSANCO is calculating loadings of mercury for point source discharges in the Ohio River basin. Staff obtained access to ICIS, an integrated compliance information system, to allow ORSANCO to create custom queries to pull mercury discharge data information from the system. Information such as permit number, facility name, coordinates, design flow, mercury permit limits, mercury sampling results, SIC code and much more is being downloaded. This information is updated nightly which demonstrates how quickly states update the information. To date, staff has downloaded all of the information from each ORB state from November 2015 through October 2016, the timeframe that matches ORSANCO's tributary mercury surveys. The data includes all mercury concentration and flow sampling results entered into ICIS for every mercury discharge. The loading of each discharge is then calculated using Hg concentration and flow. Several issues have been discovered with the data along the way which have been discussed with the NPDES subcommittee and addressed. One notable issue was handling internal outfall data. If a facility does not have results for an external outfall but does for an internal one, the internal result will be included. The next step is to finish loadings for all the states and summarize the results. Staff will also compare the results from ICIS to the tributary load calculations. Finally, the last step will be to address facilities that are highly likely to be discharging mercury where no discharge data is available, such as is the case for many municipal POTW wastewater discharges. In such cases, data from similar existing facilities will be extrapolated to the facilities lacking such data, but using the actual flow data from those facilities. Staff will continue to keep the NPDES subcommittee informed of progress and for them to review work products. Mr. Novak recommended that "minor" municipal POTW wastewater treatment facilities not be included in extrapolating to facilities without data, and staff agreed that this approach would be utilized.

Source Water Protection

Staff provided an update to the committee on recent efforts related to source water protection. After several years of planning and coordination, Greater Cincinnati Water Works and Northern Kentucky Water District have completed a draft joint, interstate source water protection plan. The plan has been submitted to Kentucky DOW and Ohio EPA for review. Additionally, discussions have been initiated with Corona Environmental to evaluate the use of their WaterSuite software to augment the utilities' source water protection efforts. A potential pilot project, funded by USEPA, is being explored to evaluate the utility of using WaterSuite to complete a contaminant source inventory along the Ohio River upstream of the Greater Cincinnati area.

ORSANCO is currently in discussions with West Virginia American Water to establish a new ODS site at the Kanawha Valley Water Treatment Plant on the Elk River in Charleston, WV. Costs for the new monitoring station would be covered by the utility. This new site would enhance the current system by providing additional early warning detection and notification of releases that could impact downstream utilities. Staff also provided a demonstration of the capabilities of ORSANCO's recently upgraded spill time-of-travel model. Model enhancements include: 1) web-based remote access to the model; 2) added capability to simulate spills on selected tributaries; 3) extended geographic range of model runs; and 4) transitioned from using the US Army Corps of Engineers CASCADE model (which has been discontinued) to the Ohio River Community Model (HEC-RAS) as the flow file source. These upgrades will enhance the Commission's ability to track movements and characteristics of a spill plume and to provide timely updates to water utilities and emergency response agencies.

The Technical Committee was provided a handout of a draft Spill Response and Communications Plan which outlines ORSANCO's responsibilities and procedures in regards to spill notification on the Ohio River. The purpose of the document is to ensure that emergency response agencies and water utilities have a common understanding of ORSANCO's role in spill notification and response. TEC has been asked to provide comments on the plan by the end of June.

Rengao Song of the Louisville Water Company presented some concepts for consideration during the future development of the next generation of the Organics Detection System. Some of the concepts included utilization of automated samplers that would collect and analyze more organics samples daily, as well as analytical technologies to look beyond only organics, such as HABs and pesticides. This information was also presented to ORSANCO's Water Users Advisory Committee. The concept proposes to expand the organics detection system to a more holistic "contaminants detection system" by including monitoring for a wider range of potential contaminants. The Water Users Advisory Committee and staff will continue to evaluate options to enhance the efficiency and effectiveness of the system.

Biological Programs

Staff provided a report of the Fish Consumption Advisory Committee which met by conference call on April 26. Data from 2016 were discussed as were any proposed modifications to states' fish consumption advisories (only proposed change was to elevate Hybrid Striped Bass in Unit 3 to 6 meals/year). Staff then gave updates on the 604(b) project being conducted with West Virginia, the on-going contaminant trends analyses for mercury and PCBs, and a special study to examine micro-plastics in Ohio River fish. Lastly, staff mentioned that a request for proposals is scheduled to be submitted to laboratories in the summer of 2017 and that the Fish Consumption Advisory Workgroup, which has met annually via conference call since 2012, expressed an interest to meet face to face in 2018.

Staff reported that the final 2016 biological pool assessments have been delayed until October due to late receipt of macroinvertebrate data from the analytical laboratory.

Staff gave an overview of plans for the 2017 biological sampling season, including a discussion of two special field studies that will be conducted. The studies discussed were assessing the impacts of hydropower facilities on aquatic life within the Ohio River, and conducting sampling within the lower reaches of direct tributaries to the Ohio River located in 2017 biological study pools.

Ohio River Bacteria TMDL Update

Jason Heath reported that USEPA Region 5 had released a draft report of the Ohio River Bacteria TMDL for internal review by the states and ORSANCO. Comments have been received from the states. Some of the concerns raised included how the TMDL would affect MS4 and CAFO permits, and CSO consent decrees. Plans for release of the report for public comment are still tentative.

Report of the NPDES Subcommittee

Paul Novak, Chairman of the NPDES Subcommittee, gave a report of the subcommittee which met by conference call on May 17, 2017. Three states, USEPA Region 5, and USEPA Headquarters participated on the call. The agenda included how states are handling USEPA's "Stay of Compliance" dates in the Steam Electric Power Generating Effluent Guidelines, use of ICIS discharge data for point source load calculations for the mercury mass balance project, and an update on the Ohio River Bacteria TMDL. None of the states on the call have included compliance dates for the Steam Electric Power Generating Effluent Guidelines within their permits. An issue with internal outfall data in ICIS regarding the calculation of mercury mass discharges was identified and a reasonable approach was identified during the call. Lastly, USEPA Region 5 provided an update on the Ohio River Bacteria TMDL.

There was discussion regarding the bacteria TMDL and the concern that giving CSO communities a zero waste load allocation is in conflict with USEPA's CSO Policy, and the resulting impacts that the TMDL might have on CSO long-term control plans.

Member Updates and Interstate Water Quality Issues

Indiana

Eileen Hack reported that there is speculation about a new port on the Ohio River opening in Lawrenceburg, IN. IDEM is in the process of metals rulemaking and working through issues involving selenium with stakeholders. Mr. Novak reported that Jeffersonville has had some preliminary discussions with IDEM about extending some of their schedule dates, but since it is a federal consent decree, those discussions would need to include USEPA. Evansville is proceeding to implement projects contained in their approved long-term control plan, the first of which is a large wetland near the treatment plant. ALCOA's NPDES permit is up for renewal in 2018, and a 316a study of their thermal discharge is ongoing. Their discharge flows are approximately half of their historic discharge and the thermal discharge is not expected to increase back to the historic levels.

Public Interest Advisory Committee (PIACO)

Betsy Mallison reported that PIACO has not met since the previous TEC meeting and further reported that the Ohio River SWEEP will take place this year on Saturday, June 17.

Ohio

Erin Sherer reported that OEPA is mid-term in its triennial review of its water quality standards. Bob Miltner of OEPA has completed a large river study on nutrient criteria development which is currently under peer review. The large river study is a little easier to understand than the wadeable streams study, and as such, OEPA may proceed with it first. They are also conducting studies for the review of the 1972 cold water habitat definition. They have also been quite busy with budget exercises to ready the agency for any potential future budget cuts to their federal 106 and 319 funding. They are finalizing storm water management plans regarding the runoff from a large salt pile along the Ohio River at the Kinder Morgan facility just downstream of Cincinnati. Dayton Power and Light is currently considering closing its Stuart Power Station, and there have been discussions on renewing the permit which expires in 2018.

Pennsylvania

Dana Drake reported that PADEP has recently discovered an oil release on the Ohio River near Aliquippa, PA. Booms have been deployed and PADEP is investigating its source on an old J&L company site. The new property owner has been installing storm water collection systems where the oil is originating from. Speculation is that the oil is coming from a groundwater source. They are requesting funding from USEPA to perform a cleanup of the site. Threatened and endangered mussels have recently been identified in pool 4 of the Allegheny River, and PADEP is working with the US Fish and Wildlife Service to develop special discharge requirements for their protection. They will not be issuing new permits until these requirements have been finalized. PADEP is in disagreement with the USFWS on their recommended approach for implementing chloride effluent limitations. The new Shell petrochemical plant NPDES permit should be finalized in June. PADEP is also in the process of adopting the new ammonia criteria which are contained in USEPA's national recommended water quality criteria.

West Virginia

Scott Mandirola reported that WVDEP's biggest issue currently involves the budget. The state has until the end of the month (June) to pass a new budget before the state government shuts down. At the same time there is no state law in place to allow for state employees to be furloughed. They are estimating that the current president's budget contains \$6.1 million in federal cuts to WVDEP's programs, such as 106, Chesapeake Bay, 319 604b funding. This level of budget cuts would require significant staff and program reductions. Their standards have been changed to allow for the use of harmonic mean flow for human health criteria instead of 7Q10 flow which was previously required. Subsequent legislation that became law utilized the previous 7Q10 language, so this issue will now need to be settled through the courts. A Mountain State Carbon facility in West Virginia will be utilizing the fish tissue selenium criterion which requires the company to conduct fish tissue studies. They may be approaching ORSANCO in the future to ensure that ORSANCO will accept utilization of the fish tissue criterion since that is not in ORSANCO's Pollution Control Standards. The Chemours Washington Works plant permit is up for renewal and WVDEP is working through issues involving permit conditions for C-8 (PFOA/PFOS).

Power Industry Advisory Committee

Mr. Reash reported that companies are moving forward with entrainment characterization studies required under the 316b rule (requires protection of fish and shellfish from lethality at cooling water intake structures). These studies address the movement of fish, eggs, and larvae through a condenser cooling system. Decisions on the use of best technology available will be left to the states since there is no federal definition. One of the concerns of power companies is how the state agencies will address the US Fish & Wildlife requirements for threatened and endangered species. The rule states that NPDES permits will provide protections for threatened and endangered species when present as determined by the USFWS, and that the permit will be issued by the USEPA if the state refuses to incorporate the USFWS's requirements. There is quite a lot of uncertainty about how this process would be implemented. EPRI recently held a very good conference on the 316b requirements, and Mr. Reash offered to send the presentations to any interested party. The Waters of the US rule, through a Presidential order, rescinds the rule and requires the USEPA and USACE to review and propose a new rule. Utilities are waiting on the USEPA to release final implementation guidance for its new selenium criteria. The USEPA released a draft methodology for developing aquatic life criteria for conductivity. Draft criteria have been developed for waters in portions of the Ohio Basin which average approximately 350 uS/cm. Finally, Mr. Reash thanked ORSANCO for providing the mobile aquarium for AEP's Conesville Earth Day event.

Kentucky

Mr. Goodman reported that Kentucky's 303d list of TMDL waters is out for public comment. They will commence their next triennial review of the standards in the Spring 2018. They are considering revisions to the ammonia criteria, design flows for use with human health criteria, and several other issues. The steam electric power plant permits are currently a high priority driven by the effluent limit guidelines. Mr. Goodman remarked that there needs to be more discussion with USEPA on the Ohio River bacteria TMDL, its implications to long-term control plans and post construction permit requirements, and relationships with the CSO Policy which is technology-based, not water quality-based.

The DOW has been working with Indiana and Ohio regarding regionalization of public water and wastewater systems. He is very happy to report that the DOW will eliminate its permit backlog this year. He asked ORSANCO to consider for its website products developed by the National Dam Safety Review Board regarding the use of dams for sports activities since there are so many dams in the Ohio River Basin.

United States Army Corps of Engineers

Eric Emery reported that the Ohio River Basin Climate Change Study is almost ready for official release.

Watershed Organizations Advisory Committee

Mr. Rissien reported that the key concerns for many of the organizations involved in the WOAC are as follows and the committee would like to know what plans ORSANCO has to deal with these issues:

- Whether or not Ohio River segments and tributaries that are known to have had algal blooms or cyanobacteria at high levels are listed on 303(d) lists;
- Whether or not Ohio River segments and tributaries included under 303(d) lists have phosphorus limits;
- Coal combustion residuals (CCR) pond/landfill closures residing in the floodplains of the Ohio River and its tributaries, especially closures that will require dewatering through increased effluent under NPDES permits and the “closed in place” option, would constantly expose and indefinitely potentiate CCR leachate contamination of ground and surface waters. ORSANCO should promote Investor Owned Utilities conducting CCR pond/landfill closures to implement “closure by removal” and produce for public release detailed site-specific cost analyses including encapsulated beneficial use;
- The Rover Pipeline, operated by Energy Transfer Partners, had two spills that released more than 2 million gallons of drilling fluid into Ohio wetlands;
- Pipelines that are being constructed with segments that go under the Ohio River, including two Columbia/Transcanada projects: the Leach Xpress, and [Kanawha River crossing at Midway, WV – near Point Pleasant] Mountaineer Xpress;
- The Appalachian chemical hub pitched by the American Chemistry Council that envisions underground cavern storage facilities and an 800-km pipeline for ethane, propane, ethylene, and propylene along an arc stretching from Monaca, Pa., to Catlettsburg, Ky., including a spur to serve the Charleston, WV, area, as well as 5 big ethylene crackers built in the Ohio River Valley. This will also support the Natrium plant’s expansion to extract and store highly volatile Natural Gas Liquids near the river in salt caves;
- BLM leases in the Wayne National Forest near Marietta, OH could open the way for Eclipse corporation to frack underneath the Ohio River in both the Marcellus and Utica layers; and
- 2 “Cracker” plants have started construction and/or permitting processes – one in Beaver, PA and one near Wheeling, WV on the Ohio side are a concern in terms of air emissions, water withdrawals and potential water pollution.

In addition, the WOAC would like to thank Travis Luncan and Lila Ziolkowski for presenting information on the Organic Detection System (ODS) to the WOAC. With Judith Petersen’s retirement, Rich Cogen (Ohio River Foundation) will take over the chair position for the WOAC after the June Commission meeting.

Water Users Advisory Committee

Bruce Whiteberry reported that the committee met a couple weeks ago and he thanked staff for several of the ORSANCO updates provided at the meeting. Rengao Song provided a presentation on potential future changes to the organics detection system similar to what he presented earlier at the TEC meeting. He emphasized that the committee’s highest priority for the system remains organics detection, understanding that certain modifications may be beneficial. There was discussion about whether ORSANCO should develop water treatment guidance related to spills. The committee felt that the best approach would be to host a website providing various resources and case studies on water quality treatment for spills. Finally, he reported that Ron Bargiel is retiring. Ron served as chair of the Water Users Advisory Committee and sat on TEC for several years.

New York

Jeff Konsella reported that New York's 2017-18 budget contains \$2.5 billion for source water protection and water and wastewater infrastructure spending. Of that money, \$1.5 billion will be provided over the next five years in grant funding for point and nonpoint source control projects. Priorities for grants include wastewater disinfection, CSO and SSO abatement, and TMDL implementation. Secondary priorities will include general wastewater treatment improvement projects. Funding will provide up to 75 percent of the total project costs. These monies are in addition to the state revolving fund annual allocations for water and wastewater infrastructure needs which totals \$250 million per year over the next five years for those projects.

United States Geological Survey

Jeff Frey reported that the USGS has released a new report on water quality trends. It covers most of the USGS's National Stream Quality Accounting Network (NASQAN) and National Water Quality Assessment Program (NAWQA) water quality monitoring sites for the entire U.S. over several periods covering the 1980-2010 timeframe. He also informed the committee about the USGS's new NASQAN/NAWQA load website where real time water quality concentration and load information can be accessed.

Ohio EPA's Nutrients Mass Balance Project

Joshua Griffin with the Ohio EPA provided an overview of Ohio's statewide nutrient mass balance project. The project was required by state law. Objectives of the project are to guide Ohio EPA nutrient policy management based on relative loads of nutrients in watersheds and the sources of those nutrients. The project will also help support the national Gulf Of Mexico Program which calls for a nutrient reduction strategy to minimize the hypoxic zone. The study area includes seven major watersheds covering sixty three percent of Ohio's land area (~26,000 sq. mi.), and the project includes data from the timeframe Oct. 2012 through Sept. 2014. Mr. Griffin discussed the sampling and calculation methodologies for determining nutrient loads in the watersheds and from point and nonpoint sources. Point sources included municipal wastewater treatment facilities, combined sewer overflows, industrial point sources, and household sewage treatment systems. Nonpoint source contributions were estimated from instream data. Stream flows over the project period fell within typical ranges. The largest total phosphorus loads occurred in the Scioto River and Maumee River watersheds, followed by the Great Miami River and then the Muskingum River watersheds. Similar patterns were seen for total nitrogen loads. In general but with some exceptions, a majority of instream nutrient loads were from nonpoint sources. This project will be ongoing and will seek to identify future trends over time, as well as expanding the project to more watersheds, and refining methods for estimating nutrient loads. The project report can be found on Ohio EPA's website at <http://www.epa.state.oh.us/dsw/wqs/nutrientreduction.aspx#146065085-nutrient-mass-balance>.

Ohio River Basin Nutrients Trading Program Update

Brian Brandt with the American Farmland Trust provided an update on the Ohio River Basin Nutrient Water Quality Trading project on behalf of Jessica Fox with EPRI who was not able to attend the meeting. EPRI is developing and administering the program with a large number of collaborators. The overall goal of the program is to generate nutrient reductions at a lower cost than a company might otherwise be able to do on their own. The concept involves nutrient point sources (companies) to pay nutrient nonpoint sources (agricultural producers) to reduce their nutrient discharges. The point source pays the nonpoint source less than it would cost them to achieve the reductions on their own, while the nonpoint source profits from the payment. It is a win-win-win scenario where the point source realizes reduced costs, the nonpoint source realizes profit, and the environment benefits by "retiring" a certain number of nutrient "credits" for the benefit of the environment.

The program has released an additional \$600,000 for projects focusing on tree planting that include an 80 percent cost-share. Mr. Brandt discussed the registry itself which is used to administer the program, as well as the Watershed Analysis Risk Management Framework (WARMF) which is used to evaluate how the trading program affects nutrients in the watershed. Currently there are twelve trading projects in Indiana, eleven projects in Kentucky, and eight projects in Ohio. In addition, there are seventeen proposals and two projects for the \$600,000 of new funding.

The current focus of the program is broadening it to the general public. In addition, the program may expand to include credit trading for carbon. The WARMF model is also being used to evaluate how the trading program alone can meet the nutrient reduction targets set by the Gulf of Mexico Program. EPRI is proposing an amendment to the agreement between Indiana, Kentucky and Ohio to allow for more flexibility with the calculation of credits, the approaches used for verification of best management practice effectiveness, and certain administrative issues. A full project audit will be published in the Fall, and a public webcast and newsletter update will be forthcoming shortly.

Adjournment

The 214th meeting of the ORSANCO Technical Committee was adjourned by Chairman Wilson at 12:03 pm on Wednesday, June 7, 2017.

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, 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 Goodmann
New York	Jeff Konsella
Ohio	Erin Sherer
Pennsylvania	Dana Drake
Virginia	Not present
West Virginia	Scott Mandirola
US Army Corps of Engineers	Erich Emery
US Coast Guard	Not present
US Geological Survey	Jeff Frey
Power Industry Advisory Committee	Rob Reash
Public Interest Advisory Committee	Betsy Mallison
Water Users Advisory Committee	Bruce Whitteberry
Watershed Organizations Advisory Committee	Adam Rissien
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, Jeff Konsella, John Kupke, Ron Lovan, Scott Mandirola, Bruno Pigott, Ron Potesta, Bruce Scott, Mike Wilson, and Ross Wales (legal counsel).

Staff

Ryan Argo, Dave Bailey, Steve Braun, Lisa Cochran, Sam Dinkins, Joe Gilligan, Richard Harrison, Jason Heath, Eben Hobbins, Jeff Thomas, and Greg Youngstrom.

Guests

Brian Brandt (speaker)	American Farmland Trust
Cheri Budzynski	Shumaker, Loop & Kendrick
Josh Griffin (speaker)	Ohio EPA
Paul Novak (speaker)	IDEM (NPDES Subcommittee Chairman)
Rengao Song (speaker)	Louisville Water Company