Memo

Ohio River Valley Water Sanitation Commission
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Since 1948
Improving Water Quality in the Ohio River for over 75 Years

DATE: January 22, 2026

TO: Technical Committee

Jeffrey Hurst, VA, Chair
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Gabrielle French, IN
Katie McKone, KY
Damianos Skaros, NY
Melinda Harris, OH
Christine Phillips, PA
Jeremy Bandy, WV
Erich Emery, USACE
LTJG Connor Sullivan, USCG
Diane Tancl, USEPA Region 5
Pete Cinotto, USGS

Ex Officio

Kathy Beckett, Chair, IAC
Krystina Garabis, Chair, PIAC
Betsy Mallison Bialosky, Chair, PIACO
Reese Johnson, Chair, POTW
Heather Hulton VanTassel, Chair, WOAC
Chris Bobay, Chair, WUAC
Sam Dinkins, Executive Director

SUBJECT: Announcement of 240th Technical Committee Meeting, February 10-11, 2026, Embassy Suites RiverCenter, Covington, KY, and Virtual Meeting

FROM: Ryan Argo, Technical Programs Manager

Jeffrey Hurst, Technical Committee Chair, wishes to welcome everyone to the 240th meeting of the Technical Committee, which will take place at the Embassy Suites RiverCenter, Covington, Kentucky, and virtually, on Tuesday, February 10, from 1:00-5:00 P.M. (ET), and Wednesday, February 11, from 8:30 A.M. to noon.

Approximately one week prior to the meetings, Technical Committee members, Commissioners, ORSANCO staff, and registrants will receive an email that includes detailed information and instructions on how to participate virtually. Those planning to attend in person can still expect to receive this email. For virtual participation with the TEC meeting, TEC members do not need to register; however, members of the public and other interested parties will be required to register to attend virtually by Monday, February 9. To register, please visit www.orsanco.org/registration and submit the registration form. A link to register will also be available on www.orsanco.org under the "News" section.

The Technical Committee meeting will be held in conjunction with the 244th Commission meeting being held on Thursday, February 12, also in-person as well as virtual. Notes on TEC agenda items are as follows:

Item 1: Minutes of the 239th Technical Committee Meeting

Draft minutes of the 239th Technical Committee meeting are attached. Chair Hurst will ask TEC members for revisions or approval of the minutes.

Item 2: Executive Director's Report

Executive Director Dinkins will report on selected items.

Item 3: Predicted Potential for Aquatic Exposure Effects of Per- and Polyfluorinated Alkyl Substances in Pennsylvania's Statewide Network of Streams

Sara Breitmeyer, with USGS, will report on Per- and polyfluoroalkyl substances (PFAS) contaminants that can lead to adverse health effects in aquatic organisms, including reproductive toxicity and developmental abnormalities. To assess the ecological health risk of PFAS in Pennsylvania stream surface water, we conducted a comprehensive analysis that included both measured and predicted estimates. The potential combined exposure effects of 14 individual PFAS to aquatic biota were estimated using the sum of exposure-activity ratios (ΣEARs) in 280 streams. Additionally, machine learning techniques were utilized to predict potential PFAS exposure effects in unmonitored stream reaches, considering factors such as land use, climate, and geology. Leveraging a tailored convolutional neural network (CNN), a validation accuracy of 78% was achieved, directly outperforming traditional methods that were also used, such as logistic regression and gradient boosting (accuracies of ~65%). Feature importance analysis highlighted key variables that contributed to the CNN's predictive power. The most influential features highlighted the complex interplay of anthropogenic and environmental factors contributing to PFAS contamination in surface waters. Industrial and urban land cover, rainfall intensity, underlying geology, agricultural factors, and their interactions emerged as key determinants. These findings may help to inform biotic sampling strategies, water quality monitoring efforts, and policy decisions aimed to mitigate the ecological impacts of PFAS in surface waters.

Item 4: Update on Ohio River HABs Research and Monitoring

Chris Nietch, USEPA Office of Applied Science and Environmental Solutions in the Applied Science and Methods Division (OASES-ASEMD), will provide an update on partnership facilitated research activities since the Ohio River HABs risk characterization tool was brought online during the 2022 bloom season. R&D completed since then has included the implementation of a 14-day ahead HABs occurrence forecast, an update of the original scripts used to produce the web application, an exploratory analysis to bring remotely sensed data related to HABs into the risk characterization, and sampling campaigns designed to help evaluate the underpinning hypothesis to the original HABs risk model, assess newer analytical methods, and to survey the extent to which benthic cyanobacteria may pose risk to river water quality and safety.

Item 5: Update on Real-time Bacteria Monitoring Technologies

Stacey Cochran, ORSANCO staff, will discuss up-to-date results of ORSANCO's evaluation of the Fluidion instrument real-time bacteria monitor and how it compares to the current Colilert method employed by ORSANCO. She will also provide a status update on the evaluation of additional real-time bacteria monitoring instrument, Proteus.

Item 6: Analysis of Long-Term Temporal Water Quality Trends of the Ohio River and Major Tributaries

Riley Lanfear, ORSANCO staff, will present results of a fifteen year trends analysis on ORSANCO's bimonthly and metals water quality data. The Seasonal Kendall test was used to determine presence of positive or negative trends at each parameter and monitoring station from 2009-2024 using concentration data and flows from the Ohio River HEC-RAS Community Model. Trends were also run on the data using an updated method called Watershed Regressions on Time, Discharge, and Season (WRTDS) where sufficient flow data was available. Results from both these tests were compared to assess water quality trends over the study period and to compare with previous studies.

Item 7: Ohio River Water Quality Update: 2025 Water Quality Conditions

ORSANCO staff will discuss 2025 monitoring activities and observations on water quality of the Ohio River and major tributaries.

Item 8: Water Quality Monitoring Programs Update

Greg Youngstrom, ORSANCO staff, will provide an update on the recent meeting of the Hypoxia Task Force as well as a planned meeting of the Ohio River states of the Task Force. Plans for the new survey boat will also be covered.

Item 9: Source Water Protection and Emergency Response Programs Update

Lila Ziolkowski and Jamie Tsiominas, ORSANCO staff, will provide an overview of Source Water Protection, Emergency Response and ODS efforts since the last TEC meeting.

Item 10: Biological Programs Update

Rob Tewes, ORSANCO staff, will review the results of the 2025 biological field season including surveys of Willow Island, Racine, and Cannelton pools. Monitoring and analytical priorities for the 2026 field season and additional recommendations provided by the Biological Water Quality Subcommittee, which convened on January 21 and 22, will also be provided.

Item 11: Technical Committee Member Roundtable Reports

TEC members are invited to report on water quality issues of importance to their organization. *Members are encouraged to provide staff with a written summary after the meeting in order to facilitate accurate meeting minutes.*

Item 12: Status of Biennial Assessment of Ohio River Water Quality Conditions

Ryan Argo, ORSANCO staff, will present the assessment methodologies and draft assessments of the four designated uses on the Ohio River: Aquatic Life, Contact Recreation, Public Water Supply, and Fish Consumption for the current 5-year assessment cycle 2020-2024.

Item 13: Monitoring Strategy and Program Prioritization

Ryan Argo, ORSANCO staff, will present the results of work by the Monitoring Strategy Committee to evaluate potential areas for program efficiency and how those results and discussions with staff and subcommittees have informed planned ORSANCO program activities for FY27 priorities. A summary of planned activities will be presented for each program. *Members are encouraged to come prepared to discuss and take action on these planned activities with the goal of providing an accepted list to staff and the Program and Finance committee to consider when developing the FY27 ORSANCO budget.*

Item 14: ORSANCO Communications and Outreach Update

Annette Shumard, ORSANCO staff, will provide an update on current ORSANCO communication and outreach activities, along with an overview of recent progress made through meetings with PIACO Committee and member states to advance a coordinated, basin-wide communication strategy.

240th Technical Committee Meeting
Embassy Suites RiverCenter, Covington, KY
February 10-11, 2026
Beginning at 1:00 P.M. (ET)
Chair Jeffrey Hurst, Presiding

TECHNICAL COMMITTEE MEETING AGENDA

CHAIR'S WELCOME AND ROLL CALL (February 10, 2026, 1:00 P.M.)

ACTION ITEMS AND REPORTS

1. Action on Minutes of 239th Technical Committee Meeting – Chair Jeffrey Hurst *
2. Executive Director's Report – Sam Dinkins
3. Predicted Potential for Aquatic Exposure Effects of Per- and Polyfluorinated Alkyl Substances in Pennsylvania's Statewide Network of Streams – Sara Breitmeyer, USGS
4. Update on Ohio River HABs Research and Monitoring – Chris Nietch, USEPA
5. Update on Real-time Bacteria Monitoring Technologies – Stacey Cochran
6. Analysis of Long-term Temporal Water Quality Trends of the Ohio River and Major Tributaries – Riley Lanfear, ORSANCO
7. Ohio River Water Quality Update: 2025 Water Quality Conditions – ORSANCO staff
8. Water Quality Monitoring Programs Update – Greg Youngstrom, ORSANCO
9. Source Water Protection and Emergency Response Programs Update – Lila Ziolkowski, ORSANCO
10. Biological Programs Update – Rob Tewes, ORSANCO

ADJOURN/RECONVENE WEDNESDAY MORNING (February 11, 9:00 A.M.)

11. TEC Member Roundtable Reports
12. Status of the 2026 Biennial Assessment of Ohio River Water Quality Conditions – Ryan Argo, ORSANCO
13. Monitoring Strategy and Program Prioritization – Ryan Argo, ORSANCO
14. Communication & Outreach Update and Basin-Wide Communication Alignment - Annette Shumard, ORSANCO

OTHER BUSINESS

- Comments by Guests
- Announcement of Upcoming Meetings

ADJOURNMENT (NOON)

*Attachment

Agenda Item 1
239th Technical Committee Meeting
October 7-8, 2025
Covington, KY

MINUTES
239th Meeting of the Technical Committee
Radisson Hotel Cincinnati Riverfront
Covington, Kentucky
October 7-8, 2025
Chair Jeffrey Hurst, Presiding

Call to Order

The 239th meeting of the ORSANCO Technical Committee was called to order by Chair Jeffrey Hurst, at 1:00 p.m. on Tuesday, October 7, 2025. Seven states, four federal agencies, and six advisory committees were represented (Roster of Attendance see page 15).

MSDGC's PFAS Action Plan: Credibility Where it Counts and Strategic PFAS

Prior to the field station tour, Scott Bessler, with the Municipal Sewer District of Greater Cincinnati, presented on MSD's PFAS Action Plan to understand the sources, transport, and fate of PFAS in their collection and treatment systems. Results of the studies should inform strategies to minimize PFAS coming into and leaving their system. He discussed MSDGC's leadership in the PFAS preparedness space with a robust understanding of fate and transport of PFAS compounds in its collection system and treatment facilities. To increase awareness of PFAS within Hamilton County, MSD has created its PFAS action plan where the importance of credibility is stressed and addressed through four pillars: Communication, Regulation, Elimination and Detection, or CREDability. One important area of emphasis/awareness building from this plan is use of PFAS compounds in consumer products and its contribution to sewer systems.

Tour of Thomas More University Biology Field Station

On Tuesday afternoon, TEC members, Commissioners and staff toured the Thomas More University Biology Field Station, along the Ohio River in Kentucky. The field station is located at the former site of U.S. Army Corps of Engineers' Lock and Dam 35, which was a wicket dam, and later replaced with the current system. The facility supports freshwater biology research, as well as a training and learning center for university students, as well as programs supporting public education. It is also part of ORSANCO's Organic Detection System which houses a gas chromatograph and delivers Ohio River water to the unit. A special thanks for hosting us to Dr. Chris Lorentz, Thomas More University Professor, and Director of the Biology Field Station, and Molly Williams, Field Station Manager, and also for their support of ORSANCO's ODS continuous monitoring station.

Beginning Wednesday morning, Chair Hurst welcomed all to ORSANCO's dual in-person and virtual meeting of the Technical Committee.

Minutes of 238th Committee Meeting

ACTION: Motion passed to accept the minutes of the 238th Technical Committee meeting.

Executive Director's Report

Director Dinkins remarked that this is an exciting time to be in the Cincinnati/Northern Kentucky Region. We've got a mega-Ohio River Sweep event, meetings of the Technical Committee, Public Information Advisory Committee, and the Commission, all in the lead-up to the America's River Roots Festival which is the largest gathering of paddle wheelers in the country. All of that packed into just 8 days.

I have been in this new role just shy of 1-year and it has been a year full of changes.

1. **Welcome to Jeff Hurst** as the new Chair of the Technical Committee.
2. **Jason Heath's Retirement** - Quite possibly the most significant change during my tenure in this new role is the one that will become effective at the end of this month – that being Jason Heath's retirement. Jason has served the Commission since 1989, making significant contributions to all aspects of our Technical Programs. On a personal note, I am indebted to Jason, as he is the one that gave me a shot to work here some 3-decades ago. I've had the pleasure of working on numerous important and interesting projects that he led. One of my all-time career highlights, was traveling with Jason to Lithuania and Russia on a project he led to train and share our experiences in watershed management across jurisdictional boundaries. That was really was a unique and rewarding experience with some interesting stories to be told about our time in the Baltics. There will be a more formal recognition at Thursday's Commission meeting, but given he has served as the staff liaison to the Technical Committee for many years now, it's only fitting that this committee also has an opportunity to show its appreciation – so please join me in a round of applause to recognize Jason's 36 years of service to the Commission.
3. **Moving Forward** - We are still working out some of the details of how this will impact our staff structure and we will keep the committee apprised of any realignment through Committee Chair Jeff Hurst.
4. **106 Funding** – I am happy to announce we have finally received our FY25 106 grant from EPA which funds most of our monitoring programs. We received notice of the award on September 25th, five days before the end of the federal fiscal year. The FY25 award was $2,000 less than the amount in FY24. We also received notice of approval for our FY25 EPA Monitoring Initiative grant for $66,000.
5. **CDS Request** – At the last meeting I reported staff had submitted a Congressionally Directed funding request through Senator Capito's office to upgrade ODS sites in West Virginia. This request was similar in nature to the one we received through former Senator Sherrod Brown's office to replace ODS equipment in Ohio. Unfortunately, this request was not advanced for funding consideration.
6. **Ohio River Sweep** - We just hosted a mega – Ohio River Sweep event this past Saturday, which include 12 local and 8 additional river-wide sweep sites. Over 500 people came out help clean up the Ohio River. Kudos to all the staff, site coordinators, volunteers, and corporate sponsors that really came through to make this event a tremendous success.
7. **Life Below the Waterline** – The mobile aquarium will be on display during the America's Roots Festival near Newport-on-the Levee. Fish will be added Thursday morning. FORE and ORSANCO staff will be working the display throughout the weekend. Come check it out if you are still in-town latter in the week.
8. **Ohio River Restoration Legislation** – Lastly, I wanted to update the Committee on the legislation to create a federally funded Ohio River Restoration Program, similar to those in other watersheds around the country. Congressman McGarvey (KY-03) and Congresswoman Houchin (IN-09) first introduced legislation last December 2024. The legislative language has been modified and is anticipated to be re-introduced to Congress in the coming weeks. The revised language includes an authorization for $350 million per year. An advisory council would be created to develop, implement and update the Program. The council includes representatives from all states, tribes, and ORSANCO. The new language also makes interstate entities, such as ORSANCO, eligible for grant funding.

Long-term Analysis of Water Quality Trends in ORSANCO's Bimonthly and Clean Metals Constituents

Riley Lanfear, ORSANCO staff, presented interim results of a fifteen year trends analysis on ORSANCO's bimonthly and metals water quality data. Suitable data for trends analyses were determined using sensitivity tests on non-detect substitution methods and flow normalization. The Seasonal Kendall test was used to determine presence of positive or negative trends at each parameter and monitoring station from 2009-2024 using concentration data and flows from the Ohio River HEC-RAS Community Model. Most water chemistry and clean metals parameters were found to be decreasing basin-wide where significant trends could be assessed. Future trends analyses will include an updated method called Watershed Regressions on Time, Discharge, and Season (WRTDS) where sufficient flow data is available. Results from both these tests will be compared to assess water quality trends over the study period and to compare with previous studies. This agenda item will recur at future TEC meetings until a final report is complete.

ORSANCO Monitoring Strategy Review

Jason Heath, ORSANCO staff, reported on activities of the Monitoring Strategy Committee. The committee has met on July 31 to review all of ORSANCO's monitoring programs, and begin discussions on identifying efficiencies that would not affect the information needs of ORSANCO's partners. A survey for this purpose was sent to the committee, and staff has received responses from all six mainstem states and several advisory committees. A summary of survey responses was presented to TEC. In follow up, a detailed summary of responses will be provided to the Monitoring Strategy Committee for further consideration and development of specific recommendations that would be presented to TEC and the Commission prior to any action being taken.

Biological Programs Update

Ryan Argo provided a status report of the ongoing 2025 field season which includes probabilistic surveys for fish and macroinvertebrates in Willow Island and Racine pools. Electrofishing surveys were successfully completed in those pool along with all 18 river-wide fixed stations; fish index scores for all sites are currently under review. In addition to Willow Island and Racine, biological crews also set macroinvertebrate samplers in Cannelton pool that was previously sampled in 2023, but resulted in substandard retrieval rates. Crews will be returning to all three pools later in October to retrieve the minimum of ten samples required in order to derive index scores for macroinvertebrates. Ryan Argo also detailed the upcoming schedule for review of data sets and methodologies to be included in the 2026 Biennial Water Quality Assessments (305b report).

Source Water Protection and Emergency Response Programs Update

Lila Ziolkowski reported that staff attended Source Water Protection meetings for USEPA Region 3, and assisted the Ohio River Source Water Alliance (ORSWA) with a boat survey to view potential contaminant sources in the Northern Kentucky/Cincinnati zone of critical concern (appx 25 miles upstream of intakes). Staff also participated in the Mississippi River Watershed Partnership (MRWP)-a new collaboration aimed at addressing a variety of concerns and impacts to the Mississippi River watershed. MRWP hopes to continue to have ORSANCO's input for addressing water quality and spill discharge issues at the headwaters of the Mississippi River.

Staff was also asked to participate in Emergency Response functional training exercises for Marathon Petroleum in Huntington WV and Clermont County Local Emergency Planning Committee (LEPC) at the new Purina Facility in Batavia, OH and real time field testing an emergency response data input platform in Owensboro, KY. Staff is preparing to re-convene the Ohio River Focus group meetings (first in-person since COVID) starting with the Cincinnati area Focus group in November. These meetings were a platform for different emergency response partners within a geographic sub-area to get together become familiar with each other prior to a significant event or disaster.

For the Senator Brown Congressionally Directed Spending (CDS) Grant, USEPA approved ORSANCO's grant amendment to use a portion of the funding to acquire a Harmful Algal Bloom (HAB) Analyzer (current system is obsolete) and to obtain a new boat. The original grant proposal allocated funds for GCMS station at Portsmouth, OH; however, this site is currently undergoing extensive capital improvements and their laboratory is inaccessible at times, so putting a new GCMS system at that site is not practical, so staff proposed to use funding for this site to further enhance rapid response surveillance capabilities and sustain more imminent program needs. ORSANCO has until the end of the calendar year to expend the grant award of $688, 000.
Staff received training on the portable GCMS and will begin pilot testing and field deployment testing. Staff received the research lab GCMS unit and waiting for an install and training date. This system will replace the current system at ORSANCO.

Regarding the Commission's Organics Detection System (ODS), there were no reports of significant detections from the ODS since last TEC meeting.

Water Quality Monitoring Programs Update

Greg Youngstrom, ORSANCO staff, presented an update on the status of Monitoring and Assessment programs. Along with routine sampling at the 6 largest CSO communities, the Contact Recreation program provided support for Paddlefest, The Great Ohio River Swim, and River Sweep events. Additionally, the real-time bacteria monitoring project funded by a WV 604b grant will continue until the end of this season.

The Hypoxia Task Force Coordinating Committee met in Washington DC September 22nd and 23rd. Primary discussion points were the upcoming Task Force meeting in December and the announcement of progress on the interim goal of reducing nitrogen and phosphorus by 20% by 2025.

ORSANCO staff investigated multiple reports of harmful algae blooms. A bloom was identified in the Smithland pool in August. Microcystin toxin was present at levels below the recreation advisory levels throughout the pool.

In September a bloom was identified in the Racine pool. Microcystin was present above the recreation advisory level at 2 locations. Follow-up sampling found the bloom had quickly dissipated and toxin concentrations were below the advisory level.

Member Updates and Interstate Water Quality Issues

Illinois

Scott Twait reported the following:

Triennial Review

Recreational Survey

As I mentioned before, as part of our triennial review, the University of Illinois is doing surveys to determine the recreational use that is happening in the Chicago Sanitary and Ship Canal, Bubbly Creek, and the Brandon Pool section of the Des Plaines River at access points to these waterbodies. The University of Illinois has completed the in-person recreational use survey. They are continuing to e-mail the surveys to recreational groups and groups that are adjacent to the subject waters. The survey is available in English, Spanish, and Chinese.

Derived Criteria

As part of the triennial review, Illinois EPA is updating the human health methodology. We are using the language for the Great Lakes, the 2000 methodology, and the 2015 update to the methodology. The Agency's intent is to release a draft document and get public comments.

PFAS Permit Progress

As of September 1, 2025, Illinois now has sixty-one (61) NPDES permits issued with PFAS Best Management Practice (BMP) requirements and PFAS monitoring. Of the 61 NPDES permits issued 48 are industrial and 13 are municipal. The added BMPs are designed to reduce/eliminate PFAS in wastewater, sludges and/or biosolids. Testing is also being required which will help document the effectiveness of these site specific BMPs.

Illinois has approximately 50 additional POTW NPDES permit renewal applications currently in house that are expected to have PFAS requirements added when renewed. By the end of 2026 Illinois EPA estimates that approximately 350 NPDES permits (Industrial and POTWs) will have been issued with PFAS requirements or are being processed to include the new requirements.

On August 28, 2025, the Illinois EPA expanded its PFAS reduction efforts to also include the state permit program. Those applicants who are industrial facilities on our targeted list of sixty-three industries and who seek a state operating permit from the Bureau of Water to discharge to POTWs classified as a minor permits (generally without a USPEA approved pretreatment program) will now be required to also develop site-specific PFAS BMPs and monitor their discharge to verify its effectiveness. Expansion of the PFAS reduction efforts in this area is necessary because most of these smaller POTWs do not have the local legal authority to deal with this issue directly and many of them do not have the expertise to know how to best deal with the problem.

PFAS MCLs

PFAS MCLs for drinking water for PFOA and PFOS are delayed until 2031 and others are in the process of being rescinded, which you probably know. IL has not yet decided what to do regarding drinking water MCLs due to this; it is still under consideration.

PFAS production facility

A facility in Illinois that manufactures PFAS has installed PFAS treatment including ultra filtrations, reverse osmosis, granular activated carbon, and ion exchange, which became operational in December 2024. Since we don't have water quality standards for PFAS, the Agency's intent is to draft the permit requiring a percent removal for the PFAS contaminants. This will be based on the ongoing performance of the installed treatment.

Indiana

Gabrielle French reported the following:

1. **2024-2025 Triennial Review Report**
    a. IDEM received EPA Region 5's letter recognizing the completion of the triennial review on October 2, 2025. The full report and attachments will be available on our WQS webpage soon. IDEM's top WQS related priorities are updating the Downstate aquatic life methodology for deriving aquatic life criterion and adopting EPA's 2018 aluminum criterion.

2. **N-STEPs Nutrient Project Summary**
    a. Indiana's recent collaboration with EPA through the Nutrient Scientific Technical Exchange Partnership Support (N-STEPS) program provided valuable insight into the relationship between nutrient levels and biological responses in Indiana's rivers and streams. The study found that diatom indices had the strongest relationship with nutrient levels, while macroinvertebrate indices showed moderate relationships and fish indices showed little to no correlation. Because IDEM already collects diatom data through its Probabilistic and Reference Site monitoring programs, the Diatom IBI may offer a practical tool to supplement nutrient or biological condition assessments.
    b. The N-STEPS study also found significantly lower nitrate (measured as nitrate + nitrite) concentrations at sites with modeled reference conditions – based on StreamCat variables that reflect minimal human disturbance – compared to the measured nitrate levels at Bio-attaining and designated Reference Sites. This suggests that Indiana's current expectations for nutrient and biological conditions (*i.e.*, reference conditions) may be based on systems with elevated nitrate levels. This finding helps explain unexpected results that showed a weak positive relationship between nitrate levels and biological indices. In practice, measurements of total Kjeldahl nitrogen (TKN) showed a better predictive relationship to biological indices than nitrate.

3. **PFAS Updates**
    a. IDEM has started the second set of compliance sampling for NTNC (Non-transient non-community) systems, since for the samples to count toward MCL compliance, they must be done 5-7 months apart. As of right now, IDEM is having Pace Laboratory send sampling kits to the systems so that they can collect the samples themselves then send them back to Pace for analysis. IDEM is hoping that there will be less sampling errors since IDEM staff visited each system and spoke with the operators about PFAS sampling techniques.

b. April 2025: Released of Indiana PFAs Assessment. Purdue IN Water Resources Research Center was the lead researcher and author on this. This report provides an overview of the current state of scientific knowledge concerning PFAS, as well as a concise assessment of current and potential impacts of its continued use. It discusses exposure pathways impacting the health of the people, organisms and environment in Indiana and the region. The report also includes recommendations regarding pressing challenges and how individuals can work to reduce the presence of PFAS while also limiting exposure and negative impacts. This report was written to be widely available and accessible by the public. It does a great job of explaining PFAS to the public and of highlighting the issues and data gaps that remain. Here is a link to the downloadable Indiana PFAS Assessment: "Indiana Statewide PFAS Assessment" by Tyler Hoskins, Carolyn Foley et al.\

4. NPDES Permitting Updates

a. General Permits Updates

i. August 1, 2025 Announcement: IDEM has terminated the NPDES Master General Permits for Discharges of Wastewater from Groundwater Petroleum Remediation Systems and discharges of Wastewater from the Hydrostatics Testing of Commercial Pipelines. In 2020, IDEM's Office of Land Quality enacted changes which dramatically reduced the universe of project sites needing to remediate the groundwater. There have been no more applicants under this general permit during the past 5 years. Future projects of this type may be covered under an individual NPDES permit. For the commercial pipeline testing general permit, it was designed for instances when a break or rupture occurs. Companies need to perform hydrostatic testing on new or repaired sections of pipelines. The spent water may need to be released to surface water. There have been very few NOI (Notice of Intent) submittals for this general permit and there are no projects with current coverage under general permit. There may be situations like this that arise in the future. However, IDEM has developed a general permit for temporary discharges of wastewater. Staff believe that the temporary discharge general permit will also cover short-term discharges of this nature (temporary discharges last only days or weeks in length).

ii. September 26, 2025: 30-day public comment period announced for draft renewal of Master NPDES general permit for discharges of wastewater from Petroleum Product Terminals to surface waters as well as for the draft renewal of Master NPDES general permit for once-through noncontact cooling water.

iii. October 1, 2025: Final renewal notice for the General Permit for Sand, Gravel and Dimension Stone, and Crushed stone operations.

b. Major dischargers with 316(a) and 316(b) studies.

i. The Warrick-Newco plant has finished constructing their modified traveling screens with fish return for 316(b) Impingement BTA (Best Technology Available). They were supposed to start the follow-up Impingement Technology Performance Optimization Study, but they found a design problem with the fish return that resulted in fish sloshing out of the side of the slide before they reached the Ohio River, so there are ongoing modifications being made, which has put a hold on the study for now. Once they do begin the study, they will be looking for ways to reduce impingement mortality (including latent mortality) by adjusting things like water pressure, water temperature, flow rate in the return system, etc. New study dates are expected to be in 2025-2026.

ii. IDEM has also decided that wedge wire screens as BTA for entrainment are not feasible based on wedge wire screen feasibility studies produced by IKEC Clifty Creek and FB Culley. Some of the major drivers of this decision were issues with navigation and sedimentation.

c. Data centers

i. We have had internal discussions on how the agency will handle new data centers in terms of the thermal component, particularly when it comes to antidegradation requirements for a new direct discharger. IDEM is developing an internal procedure on how to calculate "de minimus" temperature limits and requirements when evaluating a new loading from a data center type of facility.

ii. Indiana would welcome a TEC discussion on antidegradation/temperature considerations, especially for facilities on the Ohio River.

Kentucky

Katie McKone reported the following:

Effective October 1, Sarah Marshall began her role as Director of the Division of Water. She is joining the division after a 15-year career with the federal government, including roles at the United States Agency for International Development (USAID) and the Peace Corps. Her work has taken her across the globe, living in Jamaica, Zimbabwe, Ethiopia, and Burkina Faso, where she led the design and delivery of development and humanitarian assistance programs that saved and improved lives on behalf of the American people.

A Fleming County native, Sarah holds a bachelor's degree in Community, Communications and Leadership Development from the University of Kentucky and a master's in Agricultural Education from Oklahoma State University. Now back home in Kentucky, she is excited to bring her global experience to protect & preserve the Commonwealth's valuable water resources.

PFAS Related

- DOW is tracking information from the US EPA regarding updates to the PFAS National Primary Drinking Water Regulation. Staff are continuing to provide technical assistance and sampling support to public water systems as they work to address PFAS in drinking water. BIL funding is being targeted to assist public water systems with higher levels of PFAS, particularly PFOS and PFOA.
- The Division recently incorporated PFAS monitoring into the Ambient Rivers monitoring program. The Division already samples for PFAS with the Ambient Groundwater Monitoring Network and fish tissue programs.
- DOW is also continuing to do outreach to publicly owned treatment works and offering to sample and provide results for PFAS in wastewater and biosolids.

Waters of the Commonwealth

The Cabinet is continuing to evaluate process and program modifications in response to the change in definition of the "Waters of the Commonwealth" resulting from the enactment of Senate Bill 89 as passed in the 2025 Regular Session of the Kentucky General Assembly. On the Division's SB89 webpage, there are two water advisory memorandums that provide additional information to the public and permittees.

2026 Integrated Report

Kentucky is finalizing assessments for the 2026 cycle and anticipates public noticing the draft 2026 303(d) list in the winter of 2026. An updated Consolidated Assessment and Listing Methodology (CALM) will be available for review and comment during the public notice process, which will be a 60-day comment period.

Ohio

Melinda Harris reported on the following items:

Water Quality Monitoring and Assessment

The 2025 field season is wrapping up. We conducted biological and water quality surveys in the Licking River Watershed, the Captina Creek, and McMahon Creek Watersheds, as well as recreation and public drinking water supply surveys in the Paint Creek and Moxahala Creek Watersheds.

PFAS interactive map

PFAS sampling of 29 large rivers at 149 sites across the state occurred in 2023 & 2024 for comparison to USEPA's aquatic life criteria. Data summary and interactive map available are now on our website: https://epa.ohio.gov/monitor-pollution/pollution-issues/per-and-polyfluoroalkyl-substances-pfas

Water Quality Standards Rulemakings Underway

The Division of Surface Water final filed the water quality standards variance rule on September 2, 2025, and is awaiting U.S. EPA review and approval. This rulemaking includes updates to be consistent with U.S. EPA's 2015 regulations, updates to the multi-discharger mercury variance, and inclusion of a new multi-discharger ammonia variance for controlled discharge lagoon wastewater treatment plants. This rulemaking paves the way for the update of the aquatic life criteria rule, which will include revised ammonia criteria.

The draft Stream Nutrient Assessment Procedure rules were available for public comment until August 6, 2025. The SNAP addresses how Ohio EPA determines if streams and rivers are impaired due to excessive nutrients. Implementation of this rule will be addressed in a separate but closely following rulemaking. We are currently responding to comments.

The Division of Surface Water is finalizing a draft list of special high quality waters to be added to the Antidegradation rule (OAC 3745-1-05). We expect to release a draft rule for interested party review and comment by the end of the year. All documents available here: https://epa.ohio.gov/divisions-and-offices/surface-water/regulations

Water Quality Standards Program

Work is underway to begin the Water Quality Standards Triennial Review this fall.

NPDES Program

The NPDES program is developing a Data Center general permit that will cover the discharge of non-contact cooling waters, reverse osmosis reject waters, and other waste streams associated with data centers. This GP will include direct dischargers to the Ohio River.

Pennsylvania

Christine Phillips reported on the following:

1. The DEP's 10th Triennial Review of Water Quality Standards final-form rulemaking was presented to, and adopted by, the EQB at its September 9th 2025 meeting. IRRC will consider this final-form rulemaking at its October 16th meeting. If approved by IRRC, DEP anticipates publication in the Pennsylvania Bulletin sometime in November or December and receipt of EPA Region 3 approval sometime in early 2026. These proposed changes were previously noted in the 6/11/2025 Tech Meeting.
    - 17 new or updated WQ Criteria based on DEP-derived Human Health criteria or EPA § 304(a) recommendations
        - 14 Human Health (HH): 1,4 – Dioxane, 2,4-D, Chloroform, Barium, Boron, Methyl ethyl ketone, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, Xylene, Acetone, Formaldehyde, Metolachlor, Resorcinol
        - 3 Aquatic Life: (AL) Cadmium (updated), Carbaryl (new), Tributyltin (TBT) (new)
    - Minor definition revisions.

New York

Karen Stainbrook reported that NYS continues its commitment to Chatauqua Lake and the Allegheny watershed through environmental studies on water quality and nutrients loadings. Efforts include HAB management and planning, draft water quality guidance values for Phosphorus, the NYSHABs which is a HAB reporting and notification network, and addressing drought conditions through the Drought Management Taskforce.

West Virginia
Jeremy Bandy reported the following:

Legislative
Changes mentioned during previous Tech Committee meeting for WV's Water Quality Standards were passed by the WV Legislature and have been sent to EPA for review and approval.

The NPDES permitting fee rule that was passed during the last legislative session went into effect this past spring. Early indications show that the fund has now stabilized as a result of the increased fees. As a reminder, these fees hadn't been updated in 30 years and the increase was approximately 75%.

A fee rule for WV's Class VI UIC program is being proposed for the 2026 legislative session. WV has several applications pending at the moment.

A change to the fish tissue water quality standard for selenium is being proposed for the 2026 legislative session. Water column and egg/ovary standards remain the same.

PFAS
WV has been working with WV Rivers Coalition through an EPA grant to gather information to develop PFAS Action Plans across the state. Several public meetings were held recently in the eastern panhandle, and additional public meetings are planned for the northern panhandle; as well as, a statewide public meeting to be held virtually.

Other updates
There has been a lot of interest in Data Centers and associated NPDES permitting. To date, the agency has not received any NPDES applications to permit discharges from these types of facilities.

Several of the largest POTWs along the Ohio and Kanawha River are doing we weather capacity upgrades for their treatment systems. These upgrades include updating Long Term Control Plans (LTCPs) and collection system separation projects to deal with CSO/SSO discharges. These projects will spend hundreds of millions of dollars for upgrades and collection system work. Huntington alone is planning nearly $300 million in projects.

There is some additional 604(b) funding available for projects across WV. There have been some preliminary discussions with ORSANCO regarding the additional funding and WV is ready to further discuss in greater detail.

Several stream cleanups have been conducted for WV streams during this year. So far, in 2025, 4,651 tires have been removed for the Ohio River and its WV tributaries due to WVDEP sponsored clean ups.

Virginia
Jeffrey Hurst reported the following:

- **Selenium Update:** The recommended selenium criteria for protection of aquatic life for four streams, which are tributaries to Knox Creek (Big Sandy watershed) in Buchanan County, became effective on September 25, 2025. This is site specific freshwater aquatic life selenium criteria change to Virginia's Water Quality standards for that particular watershed. More Information for each stage of the rulemaking process is available on the Virginia's Regulatory Townhall website: https://townhall.virginia.gov/L/viewaction.cfm?actionid=6387 .

- **Triennial Review:** DEQ announced the upcoming Triennial Review of the Water Quality Standards Regulation with the issuance of a Notice of Intended Regulation Action (NOIRA) in April 2025. DEQ assembled a Regulatory Advisory Panel (RAP) to assist in the development of the proposed amendments to the water quality standards regulation. The RAP met three times in July and August. With general support from the Regulatory Advisory Panel, DEQ plans to take the following proposed amendments to the State Water Control Board in November and will request approval to go to public comment and hearing:

- Consideration of the 2024 recommended aquatic life criteria for Perfluorooctanoic Acid (PFOA) and Perfluoro octane Sulfonate (PFOS).
- Designation of additional areas to the Deep Water use in the Chesapeake Bay.
- Consideration of site-specific Dissolved Oxygen criteria for the tidal Chickahominy River and for the brackish portion of the tidal Pocomoke River.
- Addition of a significant digit to Bay Dissolved Oxygen criteria and modification of Bay criteria implementation language to allow for multiple assessment methods in the Bay.
- Addition of a performance-based approach for implementing the biotic ligand model (BLM) to derive freshwater copper criteria.

- **Three new 319h-funded projects are starting in Fall 2025 in Southwest Virginia:**
  - Big Sandy Soil and Water Conservation District (SWCD) to receive $139,610 for residential septic BMPs in the Knox Creek and Pawpaw Creek IP watersheds in Hurley area (Buchanan County, Big Sandy Watershed).
  - Holston River SWCD (Upper Tennessee River Watershed) has been selected to receive $162,239 for agriculture BMPs in the South Fork Holston River IP watershed area in Washington County.
  - Upper Tennessee River Roundtable has been selected to receive $94,709 for residential septic and pet waste BMPs in the Guest River IP watershed in Wise County and City of Norton.
  - *Note: EPA awarded FY25 funding to support these projects 9/9/2025. FY26 funding for future projects is TBD.*

- **Nonpoint Source Implementation BMP Guidelines update:** A meeting to discuss the FY26 NPS BMP Guidelines and Specifications for the 319 program is scheduled for 11/5/25. This meeting with cover topics and possible updates to the 319 NPS BMP Guidelines and NPS BMP Specifications. For more information, contact Tashema Pulliam at Tashema.Pulliam@deq.virginia.gov.

- The **Virginia Section 319(h) Nonpoint Source Implementation Program Request for Applications (RFA)** has not been issued and will remain on hold until further feedback is received from EPA for FY26 funding. Section 319h funding supports implementation projects for Best Management Practice (BMP) installation, outreach/education, and water quality monitoring.

- **Nonpoint Source Management Plan update**: The current five-year plan was extended to 9/30/2026, to allow time for EPA to provide feedback on the next 5-year draft plan that DEQ submitted in November 2024. Final approval is anticipated in 2026. The current plan can be found here.

- **Technology Initiatives:** Virginia is currently working on Artificial Intelligence (A.I.) solutions for water permits within our wetland and NPDES programs. We anticipate deploying a pilot A.I. permit application portal by the end of 2025.

- **Technology Initiatives:** In addition to A.I., Virginia plans to deploy a pilot mobile inspection program by the end of 2025, initially serving our Stormwater Program, with the intent to resource all of our compliance programs in the near future.

USEPA

Dave Pfeifer reported that Scott Ireland is currently serving as Acting Water Division Director for Region 5, until Tara Wong returns from a temporary leave. The region is currently addressing staffing vacancies due to a significant number of recent retirements. This year, Region 5 has approved twenty eight water quality standards submittals from states and tribes, while Indiana and Wisconsin completed their standards triennial reviews. The region is currently working with its states regarding the 2026 Integrated Report submittals. They are also spending a significant amount of resources on review of states' general permits and 401 certifications.

USACE
Erich Emery reported that Kentucky and Ohio experienced the driest August on record, while it was the second driest for West Virginia, and third driest for Pennsylvania. The Corps' three Ohio River districts are working to coordinate dam their dam operations to minimize effects from extreme weather conditions. The Corps' completed a low-flow study, with the University of Cincinnati, looking at the benefits of low flow augmentation on the Ohio River and tributaries. The study found that 7Q10 low flows would be 35% lower, on average, without the benefits of flow augmentation from the Corps' reservoirs, which could have significant effects on NPDES permits. Their lower estimate of $3B in annual economic benefits are provided through the system of reservoirs that provide low flow augmentation. This information is provided to Congress in a report on the value to the nation.

Industry Advisory Committee
Kathy Beckett reported that the committee has been meeting virtually over the past several months. The group has been working to expand its roster to include industry sectors that have not been actively participating, including the railroad industry. In addition, there have been others who have contacted me wishing to re-engage and become more active. The Industry Advisory Committee is reviewing ORSANCO's technical and community outreach activities on a regular basis. I look forward to reporting to the committee on yesterday's site visit to Thomas More University's Biology Field Station which was very informative, and I applaud the efforts to get the Technical Committee out there, because it was well worth the time.

Power Industry Advisory Committee
Krystina Garabis reported that the committee has been apprised of all ORSANCO actions and has no comments at this time, but we do continue to closely monitor litigation surrounding Federal rulemakings and the currently proposed or anticipated regulatory changes related to this administration's position on the ELG rule and the highly anticipated WOTUS rule. These rules are still under review by the agency pending appeal, or remain effective otherwise. There have been some proposed modifications to compliance dates, and some of the rules have received adverse comments. The committee continues to monitor developments' and anticipate there will be many rulemakings published before the end of the year.

Public Information Advisory Committee
Betsy Mallison Bialosky reported the following:

PIACO will be meeting this afternoon to discuss strategic communications. This year there have been over 5000 SWEEP volunteers which have collected over 150 tons of trash. The RiverReach program has added 4 new events, and the RiverWatch program has added two new schools. There were also ten community events that reached over 10,000 people. The annual report has been completed and is ready for distribution.

Watershed Organization Advisory Committee
Heather Hulton VanTassel reported the following:

The committee recognizes and understands ORSANCO's need to reduce sampling and monitoring due to budget constraints. However, ORSANCO's primary operations focus on monitoring programs to check for pollutants and toxins that may interfere with specific uses of the river, and reducing sampling efforts can drastically impact that ability. We recommend that ORSANCO dive deeper into their sampling and monitoring data to determine where redundancies are (same results regardless of timing and geographic location) and reduce redundancies rather than whole sampling programs. We also recommend that ORSANCO take a lead on reaching out to and working with nonprofits, watershed groups, universities, and other data-collecting entities to compile the suite of data of all entities to supplement and improve upon the monitoring efforts of ORSANCO. This could provide multiple benefits by providing necessary monitoring data to ORSANCO while creating a collective database of water quality data across the basin for interested stakeholders.

The watershed organization's advisory committee would also like to make recommendations regarding the Environmental Justice work of ORSANCO. We recommend that ORSANCO not reduce any monitoring or education efforts that are currently taking place in and around EJ communities. Removing any programming or monitoring will only further reduce the access to information and services that these communities desperately need.

We also request that ORSANCO recognize their ability to use monitoring data for good outcomes to protect the basin. ORSANCO completed an extensive PFAS monitoring effort, and it would be unfortunate if there were no efforts for source identification. ORSANCO is poised to work with industries across the basin, and source identification could help ORSANCO to work with facilities to reduce, and ultimately eliminate, PFAS discharges. While there are currently no set limits, it is clear that action needs to be taken, and ORSANCO can work with industries to create best management practices to prevent PFAS discharges into the basin - a drinking water source for our shared communities of more than 5 million people.

Furthermore, some watershed organizations are actively working to reduce PFAS in their communities, and ORSANCO can utilize their partners to be more effective for this effort. For example, WV Rivers is working with WVDEP and impacted communities. Together, they are holding community meetings to hear the voices of the community on action plans on 11 water systems with high PFAS levels to work together for solutions.

Finally, as a group of watershed organizations, we overwhelmingly support a restoration plan to the Ohio River Basin, particularly one that emphasizes ecological restoration and pollution and harm prevention. We cannot restore the basin without preventing industrial pollution from
entering our waterways.

We understand that these recommendations take resources and staff time, but we believe they are possible and necessary. Thank you for the time and opportunity to provide these remarks from the Watershed Organizations Advisory Committee.

POTW Advisory Committee Report
Reese Johnson reported that the most recent POTW Advisory Committee Meeting was held on Thursday, September 25, 2025. ORSANCO hosted a virtual meeting and representatives from SD1 of Northern Kentucky, Cincinnati MSD, and Louisville MSD participated virtually.

Our primary agenda item was to discuss the Monitoring Strategy Questionnaire recently distributed by ORSANCO. ORSANCO staff member Jason Heath provided an overview of the questionnaire, which aims to identify which monitoring programs are of greatest (and least) value to the respondents. Northern Kentucky SD1 had already submitted a response, and Cincinnati MSD and Louisville MSD committed to reviewing and submitting their own following the meeting. Jason emphasized the need for diverse responses, particularly from water users, to inform the monitoring strategy. Jason clarified that staff would not make decisions about cutting sites without thorough vetting through the Monitoring Strategy Committee, addressing concerns from some stakeholders. POTWs represented on the call universally agreed that ORSANCO's bacterial and contact recreation-related monitoring was of most importance to our sector and we encourage continuation of this fundamental work.

The committee also got an update on ORSANCO's Water Quality Monitoring Program. ORSANCO staff member Greg Youngstrom provided an update on algae monitoring activities in the Ohio River basin. He discussed a recent workshop on algae identification methods, which involved collaboration with several water utilities including Louisville Water and Cincinnati Water. Greg also shared findings from a benthic harmful algae study with EPA, which detected unexpected toxins in the Ohio River. He reported on harmful algae bloom issues near Huntington, West Virginia, and mentioned ongoing monitoring efforts upstream of the Cincinnati area. ORSANCO staff member Stacey Cochran provided an update on water quality monitoring methods, including the use of the Colilert method, Proteus instrument, and Fluidion Alert 1. She discussed the performance and limitations of each method, noting that the Proteus instrument had some significant issues. It seems like that technology may not be suitable for the riverine environment.

Stacey also mentioned discrepancies between Fluidion and Colilert data for total coliform, though E. coli results correlated well with expected levels. She plans to present a more comprehensive update at the February Technical meeting after analyzing all 7 months of data.

Before adjourning, the committee briefly explored two topics of growing interest in our sector. First, Cincinnati MSD shared there have been discussions in Ohio around a new approach to wet weather water quality standards which would shift from measuring total overflow volume to a limited number of annual activations, similar to discussions in Kentucky. Staff agreed to investigate whether other states are pursuing similar changes, as this could benefit from basin-wide coordination. Second, Louisville MSD raised the concern of sewer rate increases not being sufficient to meet the capital improvement needs of the utility. Other utilities shared similar concerns and this will likely be a topic for our next meeting in January 2026.

Water Users Advisory Committee
Peter Goodmann reported on behalf of Chris Bobay.

- Good participation of utility stakeholders which is improving and the WUAC is very much trying to host topical meetings that add value for those stakeholders
  Ohio River Algae Bloom Update
- The ORSANCO team discussed recent algae bloom activities in the Ohio River,
  - No extant blooms this season but very high water temps provided an ecosystem ripe for blooms and taste and odor issues.
  - Significant bloom at Hockingport with 294,000 cells per mL, primarily microcystis.
- Transitioning from the Elisa method to the Cast Cube system for rapid detection, with delivery expected in November.
- Plans to expand story map documentation to better track and display algae trends and results.
  Monitoring Strategy Cost-Saving Survey
- Discussed a monitoring strategy questionnaire aimed at identifying potential cost-saving opportunities without compromising essential data needs.
  PFAS Monitoring and Treatment Strategies
- The meeting focused on PFAS monitoring and compliance issues, particularly regarding recent elevated levels of Gen X and PFOA in the river.
- Louisville Water and GCWW provided data about PFAS occurrences to plaintiffs in a Clean Water Act citizen suit against Chemours, these utilities are not parties to the litigation.
- Discussed current monitoring efforts, with Louisville implementing both external lab testing and internal LCMS testing, which provides faster results but only weekly samples.
- Highlighted the need for better communication about PFAS findings/trends; discussed if parties are interested in having a regular means of communication for PFAS results, such as an email chain, or a story map similar to how the HAB response was done.
  - ORSANCO will discuss options and will try to be the liaison for communication amongst water utilities.
- Discussed sharing more info re potential treatment strategies, water quality monitoring and treatment.
- Discussed seasonal water-quality monitoring and treatment, including challenges with ongoing taste and odor issues, particularly MIB levels.
- Shared updates on monitoring protocols including PFAS testing, algae monitoring, and carbon treatment strategies.
- Facility-specific updates from Pittsburgh Water, GCWW, Louisville, Evansville, and other locations, with most reporting elevated taste and odor levels but no significant HAB events.
  - Louisville Water is for 2nd consecutive year @ x2 PAC budget due to MIB issues.
- Next meeting was scheduled for January 27-28, 2026, and Chris
- Upcoming corrosion control and Partnership for Safe Water conferences on December 9 in Louisville.

Next Technical Committee Meetings
The next Technical Committee meetings will be February 10-11, 2026, in Covington, Kentucky, and June 9-10, 2026, in French Lick, Indiana.

Comments by Guests
There were no comments by guests.

Adjournment

The 239th meeting of the ORSANCO Technical Committee was adjourned by Chairman Hurst at 11:20 a.m. on Wednesday, October 8, 2025.

Approved:

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Commissioner Proxy Jeffrey Hurst

Roster of Attendance

Technical Committee

Chairman	Commissioner Proxy Scott Mandirola
Illinois	Scott Twait
Indiana	Gabrielle French
Kentucky	Katie McKone
New York	Not present
Ohio	Melinda Harris
Pennsylvania	Kevin Halloran (virtual)
Virginia	Jeffrey Hurst
West Virginia	Scott Mandirola
US Army Corps of Engineers	Erich Emery (virtual)
US Coast Guard	LCDR Zachary Bender
US Environmental Protection Agency	David Pfeifer (virtual)
US Geological Survey	David Lampe (virtual)
Industry Advisory Committee	Kathy Beckett
Power Industry Advisory Committee	Krystina Garabis
Public Interest Advisory Committee	Betsy Mallison Bialosky
POTW Advisory Committee	Reese Johnson
Water Users Advisory Committee	Peter Goodmann
Watershed Organizations Advisory Committee	Heather Hulton VanTassel
ORSANCO Executive Director	Samuel Dinkins
Staff Liaison	Jason Heath

Commissioners/Proxies

Tommy Branin, Douglas Conroe, George Elmaraghy, David Flannery, Toby Frevert, Bruce Herschlag (virtual), James Jennings, John Kupke (virtual), Lou Wallace, Mike Wilson

Staff

Ryan Argo, Stacey Cochran (virtual), Tracey Edmonds (virtual), Nick Guthier, Emilee Harmeling (virtual), Jason Heath, Riley Lanfear (virtual), Adam Scott, Bob Wehmeier, Greg Youngstrom, Lila Ziolkowski

Guests

Duke Adams (virtual)	PADEP
Melanie Arnold (virtual)	KY Division of Water
Jeremy Bandy	WV DEP
John Hirschfield (virtual)	Westlake Corporation
David Hoffman	WV Water Research Institute
Rayna Laiosa (virtual)	Chemours
Brent Murry	West Virginia University
Melissa O'Neal	WV Water Research Institute
Nick Reif	Kentucky Division of Water
Charlise Robinson (virtual)	WV Rivers
Ryan Sherman	Illinois EPA
Daymond Talley (virtual)	Louisville MSD
Jeff Thomas (virtual)	EPRI
Paul Ziemkiewicz	WV Water Research Institute