

Small Group Discussion Topics (Workshop Documentation)

National AWOP Meeting

Cincinnati, Ohio

August 8 – 9, 2023

Topic: BIL Funding and AWOP

Facilitators: Candy Thompson (OK) and Janine Morris (EPA R4), Evan Hofeld (OR), Larry DeMers (PAI)

Participants: Margaret Kinney (R6), Neftali Hernandez-Santiago (R7), Evan Hofeld (OR), Janine Morris (R4), Larry DeMers (PAI), Candy Thompson (OK), Sara Courtwright (OK), Mike Hawranick (WV), Dan Hautman (TSB), Bill Randolph (SC)

Topic Description and Objectives:

Infrastructure Investment and Jobs Act Bipartisan Infrastructure Law (BIL)

- Enacted in November 2021.
- Expands existing Grant Programs eligibility and activities, including current WIIN grant programs.
- Increased authorizations of funding appropriations and extended years.
- Focus remains with emphasis on disadvantaged communities:
 - Maintains a focus on the grant priority areas.
- Collaboration and challenges within the existing programs.
- Introduces a new grant initiative:
 - Emerging Contaminants in Small or Disadvantaged Communities Grant.
 - * **\$5B for grants for addressing emerging contaminants** under subsections (a) through (j) of section 1459A of the Safe Drinking Water Act (42 U.S.C. 300j-19a).
 - * **The overall objective is to use towards funding projects and activities to focus on emerging contaminant work in small or disadvantaged communities.**
 - Focus on remediating PFOA/PFAS in drinking water.
 - All emerging contaminants found in CCL 1 through 5.
 - Provided through grants.
 - State match is not required.

Three (3) main areas of this topic may be discussed:

1. Are you familiar with the BIL grant programs?
2. Has your program been contacted regarding communities/PWSs to include in a BIL grant workplan?
3. How can your AWOP support PWSs that serve small and/or disadvantaged communities through all phases of a project, i.e., concept to successful operation and management?

Document discussion on area No.1 and area No.2 using the space provided below (discussion, challenges, solutions).

For area No.3, use the attached table to identify an example project and work through the project phases, roles and responsibilities of identified groups, and obstacles/solutions.

Finally, document action items that your group has identified during the workshop.

Discussion:

- Candy – Emerging contaminant funding does not go through SRF. A large amount of funding is targeted to small/disadvantaged communities. 25% of EC funding needs to address small/disadvantaged communities. State matches are not required for funding. See handout for the three funding sources (one targeted to any contaminant for systems challenged with compliance, one targeted to EC list, one to SRF).
- PAI – Does the funding need to target systems that are out of compliance? Janine – Not necessarily; systems that are likely to be out of compliance with an upcoming rule are eligible. For the EC funding, if the contaminant is on the list, a project can be pursued. There needs to be data to indicate that there is a problem at the utility/community.
- Dan – There is a specific administrative set-aside for EPA and states to manage the funding.
- Bill – Large systems can work with disadvantaged communities within their jurisdiction to fund projects.
- Evan – WIIN funding is related to compliance issues while the other funding sources don't have to be tied to non-compliance.
- Evan – What is the definition of an underserved community? Janine – The underserved community does not necessarily need to be tied directly to a water utility. For example, an underserved community could resolve a water quality problem by building a water treatment facility.
- Maggie – This topic is all new to me, but I have been hearing about the funding and wanted to find out more.
- Sara – I have limited knowledge of the BIL funding (new to job, 8 months). I am in Drinking Water Compliance (oversee sampling and compliance). I have visited some of my systems and know some communities that need help. Janine – You could be the person that comes up with a list of communities needing funding.
- Evan – We have been getting updates internally on the BIL. We are just getting started in this area. Just submitted BIL EC funding request, completed by the EC program manager (PFOS, toxins, Mn). This work is done with their SRF coordinator. OR OHA is working on defining disadvantaged communities and small communities of 500 or less population. We have been asked what systems on our AWOP status component fall into the high-priority list (have not heard anything back yet). OR OHA works with another organization that handles the financial part of projects (staffing support). Janine – The list of communities needs to be identified within the state (shared information).
- Bill – We are fortunate that all the people involved with grant funding are located within one organization (Compliance, Permitting, SRF, AWOP, etc.). This helps everyone meet as a workgroup to facilitate the funding process.

- Evan – Has anyone run into separate SRF coordinators within each regional office (e.g., CA)? Participants were not aware of this situation. OR OHA has one SRF loan coordinator. Their partner agency deals with the financial side (two groups – one on project development, one on project financing).
- Evan – Could someone elaborate on the 5-year timeframe? Dan understands that the funding runs from 2021 to 2026. Each year there is significant funding added. If funding is not utilized, it would be looked upon negatively. Nobody knows if the funding will be extended. Candy – Each year the state applies for new funding based on needs. OK DEQ will get their second year funding soon. Janine – For each project, activities need to be identified, e.g., monitoring, studies, design, etc.
- Dan – The last time the federal government provided funding at this level was during the 1996 SDW amendments implementation (once in a lifetime opportunity; time when I started my career). There will be carryover money if it is not spent. It will not be at risk (swept) until seven years out.
- Evan – OR OHA is monitoring for toxins at 70 systems. We could include these systems on our EC funding list since toxins have been detected and they may need treatment. Funding could be used to support investigative sampling to determine the extent of the problem and conduct preliminary studies.

Challenges

- X

Solutions

- X

Action Steps

1. Evan – AWOP coordinators/leads to coordinate with the emerging contaminant coordinator in their state as well as their DWSRF person.
2. Evan – Check into strategy for USEPA regional offices to communicating BIL-AWOP tie-ins from the EPA regional SRF/BIL leads down to the state SRF coordinators (this may have already happened, but good to confirm).

AWOP Engagement in BIL Projects for Small/Disadvantaged Communities

Select a Project Focus (examples listed below): HABs, add membrane treatment

Discuss and fill in the matrix with AWOP engagement ideas; identify challenges and solutions.

When stepping through the project phases think about 1) what is needed to successfully complete the phase for the PWSs serving small/disadvantaged communities, 2) how AWOP could support meeting the need, and 3) who from the AWOP network and partners could meet the need.

Project Phases	State/Region AWOP Roles & Responsibilities (Consider existing resources and programs, unique/new needs, tapping AWOP capabilities and staff.)	TSB/PAI Roles & Responsibilities (Consider adapting existing approaches and tools to PWSs serving small and disadvantaged communities.)	TA Providers Roles & Responsibilities (Consider historic R&R, strengths and weaknesses, training needs.)	Challenges and Solutions (Consider roadblocks to implementation, lessons learned from past initiatives.)
<p>Concept & planning – how are projects identified, prioritized, initiated?</p>	<ul style="list-style-type: none"> • <i>Use AWOP status component to identify systems. Use population served information to identify small systems < 10,000.</i> • <i>Communication with all the parties involved is critical (set up work state group including AWOP).</i> • <i>Assessing existing treatment facilities, e.g., surface water HAB (this is important component to justify funding).</i> 	<ul style="list-style-type: none"> • <i>HAB CPE training to support state/region AWOP staff.</i> • <i>WV – PFOS need to develop assessment tool (several plants above detection limit).</i> • <i>Funding could be used to hire contractor to conduct state training on EC topic.</i> 	<ul style="list-style-type: none"> • <i>Limited at this point</i> • <i>TA providers likely know about the funding so may pass this along to systems.</i> • <i>OR OHA – Our circuit-rider will help systems fill out a grant application.</i> • <i>OK DEQ – We do conduct training with our TA providers, so can share funding info.</i> 	<ul style="list-style-type: none"> • <i>New optimization areas – PFOS.</i>
<p>Design, construction & startup – how are PWSs engaged and prepared?</p>	<ul style="list-style-type: none"> • <i>Plan review to include monitoring equipment, testing capabilities/needs.</i> 	<ul style="list-style-type: none"> • <i>Develop approach for system staff involvement during design/start-up (process training, OP development, system walk-throughs).</i> • <i>Develop EC training modules.</i> 	<ul style="list-style-type: none"> • <i>Potential role in plan review (assuming qualified operator knowledge available).</i> 	<ul style="list-style-type: none"> • <i>Qualified personnel.</i> • <i>Training needs.</i>

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Ongoing O&M – how are PWSs supported, and projects sustained?	<ul style="list-style-type: none"> • <i>AWOP staff conduct a site visit at start-up to assess staffing status/capability, training needs.</i> • <i>Ongoing training, AWOP involvement.</i> 		<ul style="list-style-type: none"> • <i>Provide training and ongoing support.</i> 	<ul style="list-style-type: none"> • <i>Qualified personnel.</i> • <i>Training needs.</i>

Example projects: PFAS, HABs (cyanotoxin treatment), arsenic, manganese; new/upgraded technologies (membranes, package treatment system).

AWOP Basics and New Staff Training

Small Group Discussion AWOP National Meeting Cincinnati, Ohio August 9, 2023

Facilitators: Kevin Letterly (ASDWA), Mark Sceery (EPA-R1), Callie Acuff (EPA-AWOP)

Participants: Tara Bussing (OK), Antonio Romero (NM), Josh Seekins (MT), Erich Webber (TN), Ryan Graydon (EPA-R5), Anna Seeger (IA), Angie Wickiser (IN), Eric Weller (MN), Indran Kamalanathan (MN)

Proposed Topics:

- Inform participants of the components of the AWOP and what these components look like.
- Discussion between state regulators, EPA regional AWOP representatives, and small group facilitators regarding starting and maintaining a state AWOP, program structure in each state, challenges each state is facing, questions new and experienced states have, etc.

Challenges:

- States that are brand new – Knowing where to start, how to structure program.
- CPE training – States don't have enough staff trained to perform CPEs.
- How to train/involve staff when most states have few to no positions solely dedicated to AWOP.

Discussion Summary:

- Participant AWOP Experience Levels.
 - New (zero to >1 year): 5.
 - Semi experienced (one year-ish to four years or new to AWOP but in a state with an established program): 6.
 - Experienced: 1.
- Almost whole group attended Monday New State meeting.
- AWOP is what you make it – start from where you are.
- States have limited time, resources – Do what you can with what you have.
- State experience/CPE experience.

- Erich (TN): Adopted all goals at once; looking back wish that they had focused on DBP goals initially.
 - Added AWOP spreadsheets to website so operators could access them.
 - * From AWOP *SharePoint* site.
 - * States should contact Alison Dugan for access to *SharePoint* site.
 - Got word out to operators to tell them about program/introduce them.
 - * Did in-person outreach, one-day trainings.
 - * When COVID hit, sent letters to operators, clarified:
 - Voluntary program
 - Goals do not count as compliance
 - Take little steps.
 - Haven't done any CPEs – no one trained.
 - Hoping to do demonstration CPE next spring.
 - Region 4 – Trying to build CPE activities back up, Tennessee plans to participate.
- Antonio (NM): New Mexico is in and out of program; haven't done CPEs because they haven't had staff/resources.
- Tara (OK):
 - Oklahoma splits program into three parts – awards, CPEs, workshops.
 - * One staff member takes lead on each part to train/involve staff.
 - * No staff fully dedicated to AWOP, helps to split up work and maintain program.
 - Any staff can volunteer to be involved in program administration.
 - Try to do two CPEs a year, only one this year (hosting quarterly meeting).
 - Training for new staff is mostly in-house. Goal is staff having enough experience so that everyone can lead a team for a CPE.
 - Tons of planning involved.
 - Awards program – Three stages of awards based on optimization performance.
 - * Biggest selling point is that it's based on what system has on hand – components and data.

- Montana: Have done some previously, not recently. Last CPE was around five years ago.
- Iowa: Unsure about when the last CPE was done.
- AWOP *SharePoint* site – different from multi-state CPE *SharePoint* sites.
 - Past meeting notes.
 - OAS spreadsheets.
 - Tools.
- Does Rural Water help push message out?
 - Tennessee: Contract with Rural Water to help administer AWOP; Rural Water in practice hasn't helped as much, but State needs to invite/involve them to participate more (Erich).
 - Clout of state water program helps to build rapport with Rural Water.
 - New Mexico: Program contracts with Rural Water; plans to contract with them (or attempt to) when program is more established.
 - Minnesota: Rural Water doesn't have much, if any, surface water experience.
- Framework of AWOP – three components.
 - Components coincide, not a unidirectional process.
 - Status: Prioritizing systems for optimization and meeting goals through data collection.
 - States can define and can adopt all goals or some goals or pick focus area (turbidity, DBPs, etc.).
 - Setting goals, measuring where systems are in relation to goals.
 - Tennessee – Heavy reliance on paper report submittals, difficult to develop status component, using ETT score to gage who to help.
 - Oklahoma – Use ETT score to prioritize, also look at who's disadvantaged or who's having compliance issues.
 - Targeted Performance Improvement (implementation portion): Implement AWOP tools, target systems (individual, group (PBT), CPEs, etc.).
 - PBT – series of training classes.
 - * Breaks what may be an 8-hour class into five to six sessions.
 - * Hands-on training.

- * About 1.5 years: sessions spaced quarterly.
 - * Allows focus on one thing/a few things and then come back to build on knowledge.
 - Any time you can take AWOP and provide training or assistance to systems.
- Maintenance:
 - Integration – Integrate AWOP into state program activities.
 - Sustaining AWOP state program.
 - Enhancing – Improve AWOP as able.
 - Tennessee – Recognition program helps to sustain state AWOP.
 - * Systems fill out spreadsheet for one year; if goals in spreadsheet are met, systems get certificate of recognition/optimization.
 - * Small goals – turbidity at 0.1 instead of 0.3, etc.
 - * Operators talk to each other, can spread word about recognition program.
- Quarterly Meetings.
 - Erich’s (TN) predecessor started by going to workshops and learning about program, before Tennessee ever adopted goals or officially joined AWOP.
 - Components:
 - State report-outs – activities states have done between meetings relating to AWOP.
 - Workshops – focused on treatment areas, specific goals, etc.
 - * Organics removal: NE AWOP did for system having DBP issues and selling water to other system.
 - Jar testing experience with system/operator.
 - Topics discussion – states can suggest topics of interest; topics get voted on and discussed; different states/regional participants can give input.
 - * Can be more general, whatever state is dealing with at time, doesn’t have to be based on AWOP.
 - Rotate through states to host or remote meetings depending on region.
 - Virtual meetings: great for new states/states that can’t travel to meetings. Also allows for more participation from more state staff.

- ASDWA provides travel support for states that are interested/don't have travel funding to get them to quarterly meetings.
- What's been helpful in state/region in onboarding new staff? New states – what would be useful in onboarding? What was missing in your onboarding?
 - Tennessee: Having staff go with them to the workshops/quarterly meetings or talking about workshops/meetings gets them interested/energized about AWOP.
 - TSB can sometimes help facilitate workshops via *Teams*; virtual meeting – could be good for staff back at office.
 - Oklahoma: Recruited new staff with benefits of program. Travel outside of office, data entry tasks (if staff enjoy).
 - Anyone who goes to training must give presentation back at office about the training – gets people interested in AWOP.
 - New Mexico: Supervisor when Antonio was hired was very in favor of AWOP; new perspective from others at meeting was very beneficial and made him want to advocate to new supervisor about AWOP participation.
 - Region 1: Knowledge sharing is bedrock of AWOP.
 - AWOP participants to other AWOP participants.
 - AWOP participants to systems in their respective states.
 - AWOP participants to fellow regulators (in their state)
 - Reaching out to any AWOP state can be helpful.
- What would be beneficial for new states/current states from NOLT?
 - Updating CCP handbook to reflect current goals,
 - In *SharePoint*: File folder for workshop worksheets or CPE worksheets.
 - Minnesota: In talks with NE AWOP; does it make more sense than R6/7?
 - **Timeline/handout for planning a CPE: Things that need to be thought of/when certain aspects need to be planned, etc.
 - R6/7 state resource file on *SharePoint* good for planning/resources.
- Region 1 – States like being a part of bigger AWOP region with more states, more perspectives.
 - Low hanging fruit of AWOP: data integrity.
 - Good place to start for new states.
 - Look at systems' data integrity to make sure there's good basis for status component.

- Basic CPE documents – Texas has a lot of good resources in *SharePoint*.
 - CCP – handbook to help.

Approach:

- After the meeting, the facilitators brainstormed the following.
 - See mark first comment.
 - Consider what new state materials should be on EPA AWOP website versus on AWOP *Sharepoint* site.
 - Consider developing summary of common status component criteria for different types of status components for EPA AWOP website.

Action Steps:

- TSB – continue updating CCP handbook.
- States – Reach out to Alison Dugan for access to AWOP *SharePoint* site.
- Minnesota – Consider which AWOP region to join.
- TSB – Investigate creating CPE Planning Timeline Document for states to reference.

Area-Wide Optimization Program and Partnership for Safewater Distribution System Collaboration

Small Group Discussion AWOP National Meeting Cincinnati, Ohio August 9, 2023

Facilitators: Matthew Alexander (EPA-AWOP), Emily Meek (PSW)

Participants: Eric Williams (MS DOH), Brent Polise (ODEQ), Karla Goodman (IDEM)

Proposed Topics:

- Identify potential opportunities to align current AWOP and PSW goals for distribution system optimization. Discuss the benefits and challenges of aligning goals in the following areas.
 - 95th Percentile vs. All Values: PSW disinfectant goals are based on 95th percentile of monthly measurements versus AWOP disinfectant goals that specify that all measurements at all locations should meet the minimum residual goal.
 - Minimum Disinfectant Residual Targets and Analysis: Both AWOP and PSW have identical minimum residual values for systems that use free chlorine as a secondary disinfectant (i.e., ≥ 0.20 mg/L as free chlorine), but there are differences in minimum residual requirements for systems that use chloramines as a secondary disinfectant (i.e., ≥ 0.50 mg/L as total chlorine for PSW and ≥ 1.50 mg/L as monochloramine for AWOP).
 - Additional Goals for Pressure and Main Breaks: PSW has adopted distribution system performance goals for both pressure and main breaks, but AWOP has not.

Discussion Summary:

- PSW DSO Goals Overview.
 - Emily provided an overview of the PSW DSO Goals. Printed summaries of each of these goals were provided to all discussion topic participants.
 - Adopted performance goals in three areas – disinfection residual, line breaks and leaks, and pressure:
 - Disinfection.
 - * Maintain a disinfectant residual in 95% of monthly measurements at each location within the specified range (based on disinfectant type):
 - Free chlorine ≥ 0.20 mg/L and ≤ 4.00 mg/L
 - Total chlorine ≥ 0.50 mg/L and ≤ 4.00 mg/L
 - Chlorine dioxide ≥ 0.20 mg/L and ≤ 0.80 mg/L

- * Individual Site Goal: Quarterly maximum LRAA TTHM/HAA5 values not to exceed 70/50 ppb.
 - * Long-Term System Goal: Average of maximum LRAA TTHM/HAA5 values not to exceed 60/40 ppb (the average of the last eight quarters cannot exceed 60/40 ppb).
 - AWOP also has performance guidelines for other areas including storage tank operations and chloramination process control.
- General Discussion.
 - Brent really likes that PSW has adopted both pressure and main break because he feels those are also important areas of DS operations.
 - Eric asked if it is the system's responsibility to purchase and install pressure sensors and other equipment. Emily indicated that it is the utility's responsibility to purchase, install, and maintain the continuous pressure recorders in their DS. Eric indicated that it may be challenging for smaller systems to participate in the PSW because they may not have the financial resources to purchase pressure monitors.
 - Eric also asked what are the additional benefits of pursuing optimization goals (e.g., pressure and main break goals)? Emily indicated there are several benefits in addition to receiving an award, such as building a culture of continuous improvement and enhancing public health protection.
 - The group felt that it would be relatively easy for most systems to assess performance relative to main break goals because many utilities maintain records (e.g., work orders) to track distribution system main repairs.
- 95th Percentile vs. All Values.
 - Benefits:
 - Assessing performance relative to 95% of values versus all values is preferred for various reasons (e.g., allows systems that have some brief anomalies in performance to be eligible for goals).
 - Both AWOP and PSW treatment goals for turbidity are also based on 95% of measurements, so assessing distribution system performance based on 95% of measurements would be consistent with that approach.
 - Challenges:
 - Collecting and summarizing disinfectant residual data to assess relative to optimization goals on an area-wide basis (i.e., AWOP approach) is more challenging than having individual systems collect and summarize data (i.e., PSW approach). The necessary data to assess performance relative to the disinfectant performance goals is not included on monthly operating reports that utilities provide to states. Although utilities have disinfectant residual data

from their DS, it is not readily available for states to assess performance of all systems.

- Regardless, if performance is assessed relative to 95% of samples or all samples, the data availability on a state-wide basis remains an issue.
- Each state participating in the discussion group provided an update on the availability of disinfectant residual data in the DS, minimum residual, and monitoring requirements.
 - * Indiana:
 - Data Availability on MOR: Requires PWSs to report lowest daily reading in the DS and at their EP on their MOR.
 - Minimum Residual Requirement: ≥ 0.20 mg/L as free chlorine for free chlorine systems and ≥ 0.50 mg/L as total chlorine for chloraminated systems.
 - Monitoring: Requires reporting of free chlorine residual for free chlorine systems and total chlorine for chloraminated systems.
 - Other: Recommends an EP free chlorine residual of 0.8-1.0 mg/L.
 - * Oklahoma:
 - Data Availability on MOR: Minimum residual in the DS should be reported twice daily and once at the EP. Ground-water systems that treat for a specific objective (e.g., manganese) are required to submit an MOR with DS data.
 - Minimum Residual Requirement: ≥ 0.2 mg/L in DS and ≥ 1.0 mg/L at EP as free chlorine for free chlorine systems; and ≥ 1.0 mg/L in DS and ≥ 2.0 mg/L at EP as total chlorine for chloramine systems.
 - Monitoring: Requires reporting of free chlorine residual for free chlorine systems and total chlorine for chloraminated systems.
 - * Mississippi:
 - Data Availability on MOR: GW systems are not required to provide a monthly MOR to the state, but they must maintain records to provide if asked.
 - Minimum Residual Requirement: Requires minimum free chlorine residual ≥ 0.20 mg/L, does not have chloraminated systems.

- Monitoring: Requires free chlorine residual to be measured in free chlorine systems.
- Minimum Disinfectant Residual Targets and Analysis.
 - Benefits:
 - Basing minimum residual on monochloramine versus total chlorine measurements would be more protective of public health because the monochloramine method is not susceptible to the same interferences at the DPD total chlorine method.
 - Interferences with the DPD chlorine methods result in biased high measurements (i.e., overquantifying the actual disinfectant residual).
 - Monochloramine is the active disinfectant in a chloraminated distribution system, similar to free chlorine in a chlorinated distribution system.
 - Adopting a higher residual target would be beneficial for nitrification control/prevention, as documented in [M56 Nitrification Prevention and Control in Drinking Water, Second Edition \(awwa.org\)](#).
 - Challenges:
 - Currently not required by states for compliance monitoring but may be recommended in nitrification action plans. Although [EPA Method 127](#) for monochloramine analysis is now an [approved method](#), currently no state has required monochloramine analysis as an alternative to total chlorine analysis in chloraminated water systems.
 - Increasing the minimum residual target in chloraminated systems from 0.50 mg/L to 1.50 mg/L may receive some pushback from some utilities because they may consider that to be too high of a residual, despite monochloramine being known to be a weaker disinfectant than free chlorine.
- Additional Goals for Pressure and Main Breaks.
 - Benefits:
 - Although AWOP has not adopted goals for pressure and main breaks, the benefit of meeting optimization in these areas would benefit all water systems.
 - Optimizing pressure and main breaks would strengthen the physical barrier of protection in the DS.
 - Challenges:
 - Installing and obtaining pressure data would be challenging for a lot of systems.

- Similar to obtaining disinfection residual data from the DS from systems on a state-wide basis, it will also be very difficult to obtain pressure and main break data from all utilities within the state to assess performance.

Action Items:

- Consider applicability of goals during free chlorine conversions (i.e., what goals are applicable).
- Consider AWOP adopting guidelines or recommendations for pressure and main break goals.
- Consider AWOP adopting minimum residual goals based on 95% of measurements.
- Consider PSW adopting minimum residual goals in chloraminated systems based on mono-chloramine residual.

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 - Sustaining AWOP state program.
 - Enhancing – Improve AWOP as able.
 - Tennessee – Recognition program helps to sustain state AWOP.
 - * Systems fill out spreadsheet for one year; if goals in spreadsheet are met, systems get certificate of recognition/optimization.
 - * Small goals – turbidity at 0.1 instead of 0.3, etc.
 - * Operators talk to each other, can spread word about recognition program.
- Quarterly Meetings.
 - Erich’s (TN) predecessor started by going to workshops and learning about program, before Tennessee ever adopted goals or officially joined AWOP.
 - Components:
 - State report-outs – activities states have done between meetings relating to AWOP.
 - Workshops – focused on treatment areas, specific goals, etc.
 - * Organics removal: NE AWOP did for system having DBP issues and selling water to other system.
 - Jar testing experience with system/operator.
 - Topics discussion – states can suggest topics of interest; topics get voted on and discussed; different states/regional participants can give input.
 - * Can be more general, whatever state is dealing with at time, doesn’t have to be based on AWOP.
 - Rotate through states to host or remote meetings depending on region.
 - Virtual meetings: great for new states/states that can’t travel to meetings. Also allows for more participation from more state staff.

- ASDWA provides travel support for states that are interested/don't have travel funding to get them to quarterly meetings.
- What's been helpful in state/region in onboarding new staff? New states – what would be useful in onboarding? What was missing in your onboarding?
 - Tennessee: Having staff go with them to the workshops/quarterly meetings or talking about workshops/meetings gets them interested/energized about AWOP.
 - TSB can sometimes help facilitate workshops via *Teams*; virtual meeting – could be good for staff back at office.
 - Oklahoma: Recruited new staff with benefits of program. Tavel outside of office, data entry tasks (if staff enjoy).
 - Anyone who goes to training must give presentation back at office about the training – gets people interested in AWOP.
 - New Mexico: Supervisor when Antonio was hired was very in favor of AWOP; new perspective from others at meeting was very beneficial and made him want to advocate to new supervisor about AWOP participation.
 - Region 1: Knowledge sharing is bedrock of AWOP.
 - AWOP participants to other AWOP participants.
 - AWOP participants to systems in their respective states.
 - AWOP participants to fellow regulators (in their state)
 - Reaching out to any AWOP state can be helpful.
- What would be beneficial for new states/current states from NOLT?
 - Updating CCP handbook to reflect current goals,
 - In *SharePoint*: File folder for workshop worksheets or CPE worksheets.
 - Minnesota: In talks with NE AWOP; does it make more sense than R6/7?
 - **Timeline/handout for planning a CPE: Things that need to be thought of/when certain aspects need to be planned, etc.
 - R6/7 state resource file on *SharePoint* good for planning/resources.
- Region 1 – States like being a part of bigger AWOP region with more states, more perspectives.
 - Low hanging fruit of AWOP: data integrity.
 - Good place to start for new states.
 - Look at systems' data integrity to make sure there's good basis for status component.

- Basic CPE documents – Texas has a lot of good resources in *SharePoint*.
 - CCP – handbook to help.

Approach:

- After the meeting, the facilitators brainstormed the following.
 - See mark first comment.
 - Consider what new state materials should be on EPA AWOP website versus on AWOP *Sharepoint* site.
 - Consider developing summary of common status component criteria for different types of status components for EPA AWOP website.

Action Steps:

- TSB – continue updating CCP handbook.
- States – Reach out to Alison Dugan for access to AWOP *SharePoint* site.
- Minnesota – Consider which AWOP region to join.
- TSB – Investigate creating CPE Planning Timeline Document for states to reference.

AWOP Small Group Discussion Workshop 2023 National Meeting

Topic or Issue: AWOP Staffing Issues

Participants: Jolyn Leslie (WA), Jennifer Bunton (PAI), Aaron Pickens (IA), Brady Taylor (KS), George Adjei (EPA HQ), Thomas Thompson (VA), Clayton Resz (MO), Alex (CT)

Topic Description and Objectives:

During the past few years, states have been experiencing a shortage of staff due to retirements, a tight labor market, limited government spending, and other factors. This topic will kick off with lessons learned from experience with the Washington DOH AWOP. The group will be asked to share their experiences with staffing challenges and to consider ideas and creative solutions to broaden the reach of state AWOPs using existing resources. Challenges, ideas, and action items will be documented for future consideration.

Discussion questions for participants:

- What is your experience with staffing changes and how has this impacted your AWOP participation?
- Is the institutional structure of your agency (e.g., centralized, de-centralized model) contributing to staffing challenges? Is remote work impacting mentoring, relationships, and job satisfaction?
- How many staff are available and/or encouraged to participate in AWOP activities? Has management explicitly accepted or committed to AWOP participation? Does management allow open participation in optimization activities in your state or is participation limited to select staff? Are there specific obstructions or barriers that can be addressed to increase participation?
- How do you build depth and longevity across your program? Are there activities that could be implemented to assist with this?

Examples:

- Share optimization principles with sanitary survey inspectors, compliance staff, and other drinking water program staff.
- Team design review program for surface water capital improvement projects to train and share knowledge among staff and provide for better-functioning treatment plants.
- Mentoring program for EITs as they work toward their PE licenses.
- Offer hands-on training and CPE participation to encourage continued engagement.
- Others?

Experience with Staffing Challenges

Jolyn described what has been going on with the WA DOH program. She is one of three AWOP leads and has taken a new position as Surface Water Lead to replace Nancy Feagin. Although this is

Jolyn's first National AWOP meeting, she has attended quarterly meetings and AWOP activities, so she already has experience. This opportunity is open to all of the engineers in the northwest district office. There are many staff in Jolyn's office that had been there for 20+ years, but in some of the WA DOH offices, no one has that much experience. They do not have an open invitation to participate in AWOP in some of the offices, such as the southwest district office.

States usually have somewhere between 3 to 12 staff involved in AWOP; what does this look like in your states?

- Kansas has had a lot of turnover, so newer staff are getting up to speed. Brady is the lead, and he tries to communicate and update newer staff on AWOP without them having to attend the planning meetings and events. He would like to have as many as possible attend AWOP activities, and he would like it to be an open invitation.
- Iowa has a core team of 3 to 4 people from the field office and engineering staff from the central office. They have had a lot of turnover and now are down to 3 to 4 staff that would be able to handle a CPE. About 5 to 6 years ago, Iowa and Kansas partnered for CPE training, and that was very successful.
- There are challenges for some states being able to travel out of state to attend events and activities.
- In Connecticut, they have been participating in AWOP for approx. nine years, and it has been valuable to them. Because of this, they are willing to authorize the funding for their staff to attend. Alex does sanitary surveys and project reviews; participating in AWOP activities has been helpful to his sanitary surveys. They have about 400 CWSs, and 36 are surface water plants. They are using AWOP to focus more on the larger water systems.
- De-siloing AWOP is one of the issues that Iowa has experienced. There are things that they learn during AWOP workshops, but trying to find the best method and time to impart what they have learned is challenging.
- Kansas has water and wastewater engineers, and their state is large (8-hour drive from one end to the other).
- Missouri has had a high turnover in their AWOP staff. They have always involved their regional office, but no one in the central office had CPE experience and they were down to approx. two experienced staff. Clayton invited monitoring, capacity development, and engineering staff to try to find a champion when they did their recent CPE in Missouri. Next time he plans to try for a smaller group, so everyone has more hands-on time with the CPE activities.
- Management buy-in is important to continuing AWOP. Aaron mentioned that his supervisor is pushing back on his involvement with the state AWOP because it's taking away from his regional responsibilities. Alex noted that there are important benefits to AWOP that should be communicated to managers. Missouri has good buy-in and support from management, but Clayton feels that managers have a distorted perception of what AWOP could be, and they are providing funding for a very limited program as a result. Aaron has been having a virtual briefing after each quarterly meeting with the AWOP core team and the engineering supervisor who controls the funding sources. He's been considering inviting other managers to the briefings after quarterly meetings, including the field office supervisors and bureau chief.

- How are programs building depth?
 - Kansas is trying to rely more on central office staff because Brady feels bad asking district staff to do more than what they're already tasked with doing. Brady is trying to involve people with seniority, and he's also including as many district staff as he can because he knows there will be turnover.
 - Jolyn noted that involving people in AWOP seems to spark interest in some staff and helps with building depth. It helps to identify people with a passion for optimization.
 - Iowa has tried to integrate AWOP into the day-to-day business of running the drinking water program. They have questions in their sanitary surveys related to data integrity and meeting the optimization goals, and they have guidance documents for turbidity monitoring and tank management.
 - Brady has been helping offices with sanitary surveys if they participate in AWOP activities, to help reduce the load on the field office staff.
 - Alex noted the challenge of training new staff and assessing their interest in AWOP. Some people change jobs as soon as they become productive, which is frustrating.
 - Brady has noticed that central office staff are more eager to participate in activities because it gives them a chance to get out in the field, whereas field staff are out all the time and just getting behind in their work when they have to be out on a CPE.
 - Connecticut is not going out of their way to do CPEs.
 - Brady noted that Kansas wants to be able to do their own CPEs if they're triggered. Washington has used a contractor to perform voluntary CPEs and has allowed their engineers to attend.
 - Brady would like to have a national or regional team of volunteers that could assist with CPEs. Consider using MOA/MOUs to have state agreement on their participation, along the lines of the WARN concept. The problem might be in getting agency management to sign off on this. Another idea: Could TSB offer staff to assist in CPEs to help build the pool?
 - Clayton – He would like to set up an awards program for regional offices (percent of systems participating in AWOP, most improved turbidity, etc.), and he thinks this might inspire the regional offices to promote AWOP.
 - For states that have dedicated AWOP people in the central office, would they consider letting them attend surveys with state inspectors? It's good to have central office staff accompany inspectors for their own training.
 - For Washington, they try to integrate optimization principles into all aspects of the program, including having admin. staff participate in surveys just so they know what happens.
 - Videos of data integrity that Washington has produced have been valuable to Connecticut. Videos in plants highlighting the advantages of AWOP would be very helpful if those

could be developed (Alex). It would allow operators to participate and would provide a primer.

- Aaron asked if the *Groundhog* presentation could be recorded for placement on state AWOP pages and used for managers and other field staff.
- Could an AWOP update presentation be presented at the ASDWA meeting each year? Or could this be included in the ASDWA blog on a quarterly basis?
- Clayton – Have partners such as Rural Water been incorporated into AWOP activities? He would like to ask them to participate in CPEs. In Kansas, managers were unwilling to pay for Rural Water staff training, so they could not be included in CPEs. Washington had one RCAC person help with CPE facilitation, but they have not had great luck with Rural Water (Jolyn felt they would need a lot of training).
- Clayton asked if he would be stepping on regional office toes with what he's expecting. Aaron noted that, in Iowa, it is really necessary to have field office perspective or the buy-in is not going to be there. Clayton would like to have one person from each office, but if he can get even one, it would be helpful.
- The data collection piece for all of the new concepts presented here (for membranes, corrosion control, etc.) seems overwhelming; how can we do a better job of gathering electronic data? Kansas uses GEC (consulting firm) to assist with transition to electronic reporting. Are there companies out there that could help states with data capture without re-inventing the wheel?

Ideas, Approaches, and Potential Solutions

Summary of ideas for potential approaches/solutions:

- AWOP meeting participants could consider scheduling a briefing to apprise managers and other staff interested in AWOP of regional AWOP meeting discussions and workshop activities. This might help show the benefits of state AWOP participation in the program.
- Include or invite as many staff as possible to participate in AWOP activities to identify program champions that could be added to the team.
- Consider developing a national or regional team of volunteers available to assist states with systems in need of CPEs. This could include MOA/MOUs to formalize state participation along the lines of the state WARN programs.
- Consider allowing TSB staff to participate in CPEs to expand the pool for states with systems in need of CPEs.
- States with dedicated AWOP staff in central office positions could consider allowing those staff to participate in sanitary surveys with field staff to broaden their experience.
- Consider developing videos with systems implementing optimization activities to highlight the advantages of AWOP using operators to tell the story.
- Develop a recording of the "*Groundhog*" (*Why Optimize?*) presentation for placement on state AWOP pages and use in training new managers and staff.

- Consider developing an *AWOP Update* presentation for use at the annual ASDWA conference each year or, alternately, for placement in the ASDWA blog on a quarterly basis.
- Consider developing a list of companies that have experience with assisting states in collecting electronic data for use in optimization activities; states could rely on this list knowing they don't need to reinvent the wheel.

Action Steps

1. Add concept of developing a national pool of CPE team members to the regional AWOP meeting agendas to review pros and cons.
2. Consider the option of TSB/PAI staff assisting with state mandatory CPEs to grow the pool of experienced team members.
3. Consider adding the idea for a video highlighting AWOP implementation in a treatment plant/distribution system to the list of projects for BIL funding.
4. Consider adding the idea for a recording of the *Why Optimize* presentation to the list of projects for BIL funding.
5. Talk with Kevin Letterly about adding an *AWOP Update* presentation to next year's ASDWA annual conference agenda or adding a quarterly update to the blog (or both).
6. Consider adding the topic of which companies states are using for electronic optimization data collection projects to the regional AWOP meetings to develop a list for state reference.

AWOP Small Group Discussion Workshop Template 2023 National Meeting

Topic or Issue: Exploring AWOP Compliance and Enforcement Connection

Participants: Bill Davis, Andrea Traviglia, Reggie Lang (NV), Leronda Aviles (NJ), David Dawson (VA), Joe Uliasz (KY)

Topic Description and Objectives:

There is increased interest at OGDW in expanding communication between the AWOP network and other drinking water oversight programs. This discussion attempts to develop a preliminary approach to exploring communications with the enforcement area, identified by TSB as high priority.

Status (could also be formatted as “Challenges”)

- Different state set-ups – Some have enforcement and compliance combined; other states are separate; working together, or starting to work together. Those with separate programs must have good communications but can potentially have more impact.
- Enforcement often just wants systems in compliance – Getting them to optimize systems is another hurdle. In some cases, Enforcement and Technical Assistance work together to move systems in the same direction.

Approach (could also be formatted as “Solutions”)

Next steps –

-

Response to Questions:

If we want to discuss Enforcement communication with state representatives, would the people attending AWOP planning meetings be the correct decision-makers? Would we need to reach out to different people?

- .

What has your experience been when trying to integrate your Enforcement program with your AWOP?

Discussion of how state programs are set-up:

- Kentucky – Joe’s group is Technical Assistance. Work closely with Compliance, Enforcement groups. Use CPEs in conjunction with Enforcement – lead to a complete turn-around. Build the CPE into the Enforcement; tell them it is voluntary. CPE report is stand-alone – PLFs and why they aren’t optimized. System makes a correction action plan, addresses what they can do immediately – Enforcement sends it to technical staff. CPE conducted by Kentucky staff. Can include Rural Water, DCA group, Capacity Development staff.
- “*Optimization is a journey.*”
- First system they worked with – Small system; had DBP/staffing/etc. issues. 2018. Total turn-around at the system.

- Virginia – AWOP is not well linked to Enforcement; programs are isolated. Enforcement is done at District Level; same district engineers for sanitary surveys, AWOP, technical assistance.
- New Jersey – When they start looking at AWOP data, some of it is regulatory. Currently have a regulatory form that asks, “*Have you met this requirement?*” with a check-box. And now they are getting the data behind those forms, and some show violations.
- New Jersey – Separate groups. Did have Enforcement take part in AWOP New State trainings. Enforcement does sanitary surveys; looking for them to ask additional questions/request data ahead of sanitary survey, review data ahead of time, ask Enforcement folks to ask specific questions related to that data. Then coordinate on follow-up. This is a change for New Jersey. Revamped the survey checklist a few years ago, and they are still working on this.
- Kentucky – If they find a violation during the CPE, TA staff correct it (e.g. distribution system location with no chlorine). Then they notify the Enforcement to check the area. If not able to correct it, then notify Enforcement immediately.
- Virginia – If they see a violation, they correct it, but they also issue a violation.
- Nevada – Enforcement and Compliance are the same. They do sanitary surveys, regulatory compliance (rule managers).
- Where is Enforcement used? If all the same people:
 - a. Use Enforcement as a last resort. Long road to get to that. And even when an order is issued, the system can appeal.
 - b. Kentucky – Different approach.

In what ways can the Enforcement and AWOPs enhance each other? What are some new ideas for enhancement?

- Kentucky found using a CPE can enhance programs.
- Enforcement has the “*ANVIL.*”
- Optimization skills will enhance enforcement.

Are there particular AWOP tools that might be useful for Enforcement staff? (Vice/Versa)

- CPE – All-encompassing tool; looks more holistically at the system. If a system comes in with DBP issues, likely not limited to DBPs, potentially other underlying issues (TMF capacity). Joe (TA group) suggested CPE to Enforcement group.
- Kentucky – TA group asks for things to be put into the enforcement order.
- New Jersey – Wants Enforcement to get the data through sanitary surveys.
- Nevada – Doesn’t have TA on staff like Kentucky; they rely on Rural Water.

If we started working on enhancing communications with Enforcement program staff, is anyone willing to volunteer to pilot possible approaches?

- .

Summary to Report to Other Meeting Participants:

Status (could also be formatted as “Challenges”)

- Different state set-ups – Some have combined Enforcement and Compliance; other states are separate – working together, or starting to work together. Those with separate programs must have good communications but can potentially have more impact. Getting multiple groups to work in the same direction in an organization is powerful.
- Getting systems to optimize systems is another hurdle, beyond compliance. In some cases, Enforcement and Technical Assistance work together to move systems in the same direction.

In what ways can the Enforcement and AWOPs enhance each other? What are some new ideas for enhancement?

- Kentucky found using a CPE can enhance programs.
 - a. Enforcement has the “ANVIL.”
- Optimization skills will enhance enforcement.
 - a. Incorporating CPE findings into a corrective action plan.

Are there particular AWOP tools that might be useful for Enforcement staff? (Vice/Versa)

- CPE – can increase staff capability.
- AWOP experience can be used to enhance surveys/inspections.
- Data integrity improvement can help Enforcement follow-up and compliance determinations.

AWOP National Meeting 2023
Small Group Session
Coordination and Collaboration Among AWOP and TA Providers

Topic Background and Considerations:

AWOP has received BIL funding to support these Water TA activities. As a result, we want to brainstorm with the AWOP network potential approaches coordinating and collaborating with the other BIL-funded TA providers (e.g., Environmental Finance Centers, RWA, RCAP, etc.). Potential topics or questions to brainstorm are listed below.

- *Are the state staff working with AWOP also engaged with TA providers or EFCs?*
- *How to implement training of technical assistance providers (TAPs) – including Environmental Finance Centers (EFCs)?*
- *How to ensure that TAPs and other technical assistance are being directed to the systems that need it most (e.g., small, underserved, disadvantaged communities)?*
- *What drinking water topics would be best for TAPs to deliver as TA? Some are likely more conducive than others.*

Questions posed by EPA management on Day 1:

1. After EPA works with TA providers to make them aware of available AWOP tools/approaches through demonstration projects or training, how can the AWOP Network support/encourage TA providers to utilize these tools/approaches with PWSs?
2. What can the AWOP Network do to ensure that AWOP tools/approaches are effectively focused on Small/Underserved/Disadvantaged Communities?
3. More recently, AWOP has developed and demonstrated tools to optimize to address harmful algal blooms (and associated cyanotoxins) and manganese. AWOP is now developing tools to optimize corrosion control and considering approaches to better prepare systems to address PFAS contamination.
 - Do these address the greatest needs?
 - Are there other emerging contaminants or drinking water treatment priorities that the AWOP Leadership Team should consider for development of technical tools/approaches?

Other ideas/resources to consider:

- Oklahoma RWA project.
 - Mini-CPE (smaller scale – one day); worked in groups to do Special Studies such as filter profiles, backwash studies, chemical dosing.

- CT and turbidity – data integrity (flow, compared bench and online), reviewed CT parameters and disinfection profile.
- Application of the MUPE to BIL-related TA and funding? (follow-up from the session on Day 1).
- Training videos – The group could brainstorm topics.
https://www.youtube.com/playlist?list=PLCMcL_tJa40CyeNnQzyZWnsUWbJKhPHig

Coordination and Collaboration Between AWOP and TAPs Small Group Discussion:

Attendees:

Luis Andrade – Connecticut
 Mike Bolf – EGLE Michigan
 Davis Roeser – EGLE Michigan
 Mike Kropp – Montana
 Krista Schultz – New Mexico
 Greg Carroll – EPA OGWDW
 Alison Dugan – EPA OGWDW
 Kara Goodwin – EPA OGWDW
 Deborah Vacs Renwick – EPA OGWDW
 Tom Waters – EPA OGWDW
 Alysa Zirilli – EPA Region 3

Notes:

- Alison introduced the topic and directed several questions to the group posed by EPA management (see above).
- AWOP has received BIL funding to support drinking water technical assistance activities and providers.
- Are state staff working with technical assistance providers (TAPs) or environmental finance centers (EFCs)?
 - Mike Kropp (MT): Providing TA to all Montana water systems. He said there should be six of him (i.e., there are staff limitations). Montana has been trying to incorporate technical assistance with water system visits. Another effort has been developing guidelines or “*outlines*” for facility-based training. Mike has developed several templates for this type of training. He has developed a library of pre-approved outlines, and if operators want to go through any of the training, they are able to do so. This helps provide topics for operators to engage TAPs, including Montana Rural Water (MRWA) and Mid-West Assistance Program (MAP) (RCAP Network Member). He is hoping these efforts will encourage communication and collaboration between water systems and TAPs.

- Mike tried to get buy-in from MRWA and MAP while developing the outlines. Mike engages Montana state staff subject matter experts (SMEs) to ensure accurate information. He also makes the training outlines freely available so that they're not tied to CECs. He's been working on this effort since last spring (2022).
- Systems can select any training outline and select TAPs for help as long as that TAP is pre-approved by the state.
- His intent is to keep these training outlines as living documents to allow for updates and new information.
- Emphasis is that these are training outlines. This allows TAPs some professional latitude as they're in the field. There is also a comment section for feedback.
- Publicly available on the Montana DEQ website:
<https://deq.mt.gov/water/Programs/dw-capacity>
- Kara Goodwin: Are TAPs in Montana also thinking about follow-up with systems as part of these trainings? Mike tries to summarize information and gather input – there is always opportunity to create new training packets.
- Mike Bolf (MI): Michigan likely is not doing much work with TAPs. Management has been inquiring about opportunities for TA. Michigan has staff doing TA in both their Capacity Development program and AWOP. Management has been thinking about how to align those efforts. Michigan Rural Water doesn't have much surface water expertise in the state.
 - If BIL funding and AWOP efforts could be leveraged to TAPs, that would be great. Michigan has difficulty building awareness of optimization concepts.
 - Greg – Is there a logical division of responsibility between TAPs and state staff? Mike indicated that Michigan staffing is in a position such that they welcome any help they can obtain for getting systems involved with AWOP.
 - Alison – Are there specific topics that would be conducive to TAP training? Mike indicated that TA in Michigan is currently directed to problematic systems or those with insufficient TMF capacity, and not the greatest candidates for AWOP – just focused on compliance. It would be great if TAPs in Michigan had AWOP training (data integrity; OAS/data entry, trending, and interpretation).
 - There is a need for Michigan systems to be better versed in CT calculations; TAPs too.
- Many TAPs take different directions than state priorities, so this was another reason Mike Kropp began to develop the training packages for Montana – to provide more direction to TAPs with state perspectives.

- Greg – “*Optimization*” vs. “*compliance*.” Optimization can be a longer-term vision for smaller, more struggling systems. “*Goal for some; vision for others.*” Optimization is likely more tangible for larger, more well-funded systems.
- Mike Bolf – Michigan staff try to build awareness of optimization during sanitary survey visits, but it would be helpful if they had help from AWOP-trained TAPs. This is an ongoing effort to help operators understand that this is a continual process.
- Mike Kropp – Activity sheets from TAPs aren’t often seen by state staff (unless you’re like Mike, who is also the SRF manager where they’re submitted). The activity sheets aren’t always comprehensive (“*coffee/donuts visit*”). He’s optimizing TA visits with TAP providers by providing this guidance. The outlines are not prescriptive, but it’s an outline for data collection and analysis. RWA keeps activity sheets internal and advertises as much to systems (confidentiality; no state involvement).
 - There is a time demand to complete the outlines. Operators cannot receive CECs unless the training came from Montana’s pre-approved list.
 - Also, operators can only get one-half of their CECs from this process, which ensures they continue to attend meetings/trainings where CECs are offered.
- Deborah – Reviewing activity sheets can be time consuming. Mike Kropp – Operators need to obtain pre-approval for CECs two weeks in advance, submit training sheet and a review of the TAP. Mike reviews, then approves for CECs.
- Kara – With regard to Montana’s TA effort, this helps the TAPs work through the state. He obtained buy-in from both MAP and MRWA. In Region 8, national RWA is the EFC.
 - Mike K. also updates TAPs on new modules. He also welcomes feedback and ideas on new modules. He’s trying to avoid “*lectures*” and makes the effort include data collection/analysis/interpretation.
 - Mike has good relationships with local TAPs (MAP, MRWA), but he’s hoping that this effort helps improve their communication.
 - Alaska has many remote villages. Usually, TAPs call and speak with State staff for permissions to travel and work with the systems.
- New Mexico (Krista) – New Mexico interacts with TAPs in many ways, depending on which ones they are, and their responsibilities. New Mexico decides internally how to handle issues; however, if they can’t help, they’ll contact RWA.
 - New Mexico has an assessment team that performs all capacity assessments. If needs are identified, the work is pushed to TAPs.
 - New Mexico also has a resiliency team. Working to get a meeting with all TAPs to encourage more consistency and less duplication of efforts. These meetings occur monthly. EPA Region 6 staff are not involved with TAP meetings. Southwest EFC is involved.

- New Mexico is also conducting “*Water Commons Meetings*” – Looking for partnerships and opportunities for regionalization. Conducted roughly every three weeks. Work with RCAC to facilitate.
- Connecticut is in a similar position to Michigan in that they provide TA to their surface systems, and they do not rely on TA providers for this.
- EPA Region 10 (Chris) –
 - PAI vs. TAPs roles are very different:
 - PAI does optimization-focused training for the tribal systems in Region 10.
 - Even if they train the traditional TAPs or EFCs, it is unlikely that these organizations would be able to provide this same kind of TA to water systems because the topics and approaches are so different from what they are used to.
 - General comment – We need to continue to emphasize “*compliance assistance through optimization*” though it may be a concept that is difficult for traditional TAPs to embrace and implement.
- Consider involvement during RFP stage for TAPs in EPA – incorporate optimization language and criteria for proposals.

Discussion Summary (developed by Tom, Alison and Greg):

- Relationships with TAPs are very state-specific.
 - There is potential for TAP work integration with AWOP, but it may look different in each state. Relationships are very important. If operators or state staff don’t know TAPs, this won’t work.
 - Greg: So much of this is at state level. EPA needs to be talking to NRWA and NCAC management. It often even comes down to individuals involved.
 - Can’t change TAP mindsets overnight. Be careful who we work with – not all TAPs have equal ability or staffing or technical capacity.
- At national level, future grants can maybe be leveraged, RFP integration, for more TAP accountability.
- Messaging about optimization – process to improve water quality. Path versus endpoint. Incremental improvements are better than none.
- **Next Steps/Path Forward:**
 - **TSB should brainstorm what would add the most value.**
 - **Which tools and techniques can be transferred or repackaged for TAP training?**
 - **Revisit at regional meetings with focused discussion agenda.**