**TOPIC Development: AWOP & PSW Enhanced Collaboration**

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| **Attendees:** Chiamaka Alozie,Todd Brewer, Robert Burns, Greg Carroll, Ed Chescattie, Craig Corder, Ebrahim Habib, Tammi Harper, Evan Hofeld, Eric Hudson, Aaron Law, Rick Lieberman, Wesley Powell, Antonio Romero, Laura Taylor, Aimee White |
| **Brainstorming Topics and/or Issues:** |
| 1. AWOP PBT:    1. Encourage PSW membership for all AWOP PBT *“graduates”* to maintain momentum beyond the conclusion of facilitated AWOP PBT sessions.    2. Invite PSW member systems to participate in AWOP PBT sessions. 2. Facilitate Special Study sessions with PSW and/or PBT PWSs. 3. Align/coordinate/document AWOP goals and PSW goals and other materials. 4. Coordinate data submittal formats. 5. Coordinate AWOP state-level awards programs with PSW awards. 6. Pursue collaboration during the development of new focus areas:    1. PSW source water protection program    2. Corrosion control 7. Enhance the sharing of resources between programs. |
| **Implementation Approaches/Ideas:** |
| * **Performance Based Training (PBT)**: It is a structured approach, incredibly valuable. The Special Study approach is a value-added, necessary tool for operators.   + One approach (identified by 1.a. above) is to encourage public water systems (PWSs) going through PBT to join the PSW. This may help PWS staff to maintain the *“optimization cul­ture”* beyond the end of the PBT program.   + Another approach (identified by 1.b. above) is to change the order from encouraging PBT *“graduates”* to join the PSW, but to invite PSW member systems to participate in PBT. States should reach out to Partnership members (especially those still in PSW program Phases 1-2) and invite them to join a state-facilitated PBT project. This may help the PSW water system staff members by exposing them to AWOP early in the process. This would essentially add “PSW membership” as a PBT selection criterion for states implementing PBT. Exposing the PSW staff to PBT may help them move through the PSW phases. Exposure to the Special Study approach would provide the PSW operators with tools that they can use to address issues that are identified by going through the self-assessment process.   + PBT and PSW self-assessment goals and format have similarities. State AWOP team mem­bers may help facilitate PSW efforts (e.g., State staff as trainers, different combinations/ tag team). Intro­ducing the PSW utility staff members to Special Studies would be very beneficial.   + Performance Based Training and Special Studies (characteristic of AWOP) would be really valuable for PSW subscribers that get *“stuck”* in Phase 2.   If a State AWOP taught the Special Studies approach to PSW subscribers first, especially when new members sign up for PSW, it could help advance in the PSW and also add to them to the community of AWOP participants.   * + An example of a universal Special Study was identified as a coagulant feed pump calibration Special Study. This example would really help the PSW staff to learn the Special Study approach.   + PBT model is a great model. It addresses the knowing-doing gap. It builds relationships between state regulators and the water treatment plant staff as well as between neighboring water treatment plant staff members. State resources limit the ability of some states to con­duct PBT. PBT can address the goals, data integrity, Special Studies, etc. Can the PSW pro­vide support to PBT by fill­ing the role as trainers, and the state staff will fill the role as facili­tators? Can the PSW han­dle the logistics and ongoing data tracking?   + Todd mentioned that he and Kevin Lindner (PEAC vice-chair, etc.) may be good resources for the PSW PBT training approach. PSW is comprised of utility folks trying to help other utility folks. If there is a way to help with PBT, PSW is amenable to that. Todd embraces this idea. Evan mentioned that the role of trainers/facilitators could be switched or hybrid between PSW and State resources.   + Oregon has some PSW systems, but there isn’t any collaboration between the state AWOP and PSW. Oregon hasn’t had the resources to take on the Distribution System Optimization program, and maybe PSW could help with this. * **Facilitate ongoing Special Studies discussions:** The Ontario Optimization Demonstration Team (ODT) is a group of wastewater utilities working toward optimization. The group meet­ings (two times per year) evolved into a format which includes selecting an optimization topic to pursue. Many, but not all, ODT members went through a wastewater PBT, and there was some famili­arity with the Special Study approach. Others are learning as they go. Facilitators provide support for those who have not been through PBT or have not learned the Special Study approach. The group tries to be as inclusive as possible. Ontario is a big province; there isn’t a lot of opportunity to go out and conduct training. New people expressing interest, who have not been through a lot of optimiza­tion training, are facilitated by Aaron or others in the group. Could this approach be incorpo­rated with PSW and/or PBT PWSs? * **Identify program similarities and differences:**  Due to the pandemic, the AWOP team has been putting more tools and training *“out there”* for others, whether they are part of the AWOP or not. We will benefit from taking time for both programs to describe (in a way that those not familiar with one or both programs can understand) where there are similarities and differences. Programs need not compete with each other; there is plenty of work to be done. Be deliberate about the similarities and differences when developing clear communication materi­als so everyone can understand. Look for opportunities for joint presentations at conferences.   + A key element is to develop clear communication materials for both the target participants and for our management audience. The more EPA management has come to understand AWOP, the more supportive they have become. AWOP enjoys good support at the Divi­sion level and the Office level. However, it has taken years to achieve this level of support, and the time and effort we spend on clarity of communication in our materials regarding is time well spent.   + During the pandemic, more and more AWOP resources are available to others in and out of the AWOP network.   + There is no need for the PSW and AWOP to be redundant in developing approaches.   + What size of PWS can benefit from the PSW program? The size range of systems in the PSW is wide: from ~250 (anomaly) to ~20M. The program has more medium and large size systems in the program than small systems. The Partnership size category is based on its rate structure; the smallest tier in the PSW is <18,000 served ($50 system). There are quite a few PSW small systems in Colorado and PA DEP.   + The PSW annual report includes a performance comparison based on PWS size. Small sys­tems also show a performance benefit from participation in the program.   + PSW is investigating the initiation of a Partnership for Small Systems. This will focus on the struggling utilities – big opportunity for public health protection; *“compliance assis­tance mode”* versus an *“awards category.”* * **Share resources:**    + PA DEP provides funding for some technical assistance to help PSW systems get bet­ter. Big and small systems reap the benefits of this assistance.   + The emerging Partnership for Small Systems may allow anyone who wants to get better to join regardless of the PWS compliance status. The goal is to improve public health and offer everyone access to the suite of resources in AWOP and PSW.   + Investigate collaboration opportunities when both programs are conducting training ses­sions. PSW training will be conducted in the Spring in the SE part of the country: Reviewer Train­ing for Self-Assessments. * **AWOP and PWS goals:**   + Aligning the goals would be beneficial. A suggestion is to document the goals of both pro­grams in a similar format. Consider a column that identifies the differences and include rationale for the differences for ease of comparison.   + Evan Hofeld provided a draft article that he produced (which was never published) regard­ing the regulations and AWOP goals to raise awareness of the similarities of the goals. He couldn’t easily find the PSW goals on the website for inclusion in the article. The article is attached at the end of this document. * **New Focus Area: Source Water Protection Program:**   + PSW ground water addendum was completed in 2017 and was included treatment for Fe, Mn, and As.   + A PSW Phase IV utility in the Midwest has a robust source water protection program. It has offered to share its approach with the PSW and others to make use of it. The PSW is consid­ering a source water protection focus. |
| **Challenges:** |
| * Many small systems may not have the capability of implementing a self-assessment approach to optimization. * Some small systems join the PSW because the Mayor or utility manager thinks it is a good idea, but then they don’t have a grasp on the resources needed to successfully pursue optimization. * Creating continuity in optimization – The Ontario wastewater optimization program is still an ad-hoc program; how can it be integrated into a more established program like the PCW? * Some AWOP and PSW optimization terminology is not especially intuitive, making it difficult to fully understand the full value of the programs. * Inability of some AWOP states to collect the data needed to document AWOP impacts. |
| **Action Steps:** |
| 1. Capture this discussion and include it in the National AWOP meeting package, which will be available to all in attendance. 2. Include the ideas captured by this discussion in the next PSW/AWOP collaboration meeting (scheduled for 8/18/2021). 3. Todd will consider adding the PSW goals to the website and reach out to Evan Hofeld for the PSW goal that he is searching for. 4. Todd will provide the breakdown of the PSW participants in terms of system size to the discus­sion group participants. 5. Todd will inform AWOP when new PWSs join the PSW so that an AWOP state may reach out to those utilities for inclusion in PBT. 6. Todd will reach out to Aaron Law regarding a Spring 2022 self-assessment reviewer training ses­sion to provide him with an invitation for participation in the reviewer training. This may help to enhance collaboration between the Ontario wastewater efforts and the PCW. Todd will also send Aaron a pdf of the PCW self-assessment guide and follow-up to discuss opportunities for collaboration. 7. The AWOP team will develop creative ways to work around data collection constraints of some AWOP states to further document the national impact of AWOP. 8. Consider a joint presentation between AWOP and PSW for optimization goals at an ASDWA conference/meeting for program managers. |

**Draft Article by Evan Hofeld**

Did you know that there are [nationally recognized optimization goals for chlorine residual and disinfec­tion byproducts](https://www.epa.gov/sdwa/optimization-reduce-disinfection-byproducts-dbps) that help protect against microbial growth in the distribution system and keep disinfec­tion byproduct levels down?  [AWWA’s Partnership for Safe Water](https://www.awwa.org/Resources-Tools/Programs/Partnership-for-Safe-Water/Distribution), [USEPA](https://www.epa.gov/sdwa/optimization-program-drinking-water-systems), and [many states](https://www.asdwa.org/awop/) recognize many of these same distribution system goals.  Following these goals can also provide a buffer to help continu­ally maintain compliance with requirements.  Table 1 compares the regulatory requirement with a few of these optimization goals.

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| **Table 1: TTHM, HAA5, and residual disinfectant requirements and goals.** | | |
| **Limit** | **Requirement** | **Optimization Goal** |
| **TTHM Locational Running Annual Average (LRAA)** | < 80 ppb | < 70 ppb |
| **HAA5 LRAA** | < 60 ppb | < 50 ppb |
| **Residual disinfectant level** | Maintain a detectable level and keep residual  ≤ 4.0 mg/L | Maintain > 0.2 mg/L free chlorine residual through­out the distri­bution sys­tem at all times and keep resid­ual ≤ 4.0 mg/L.\* |

\*In systems that use chloramines as a secondary disinfectant, the goal is to maintain ≥ 1.50 mg/L mono­chloramine residual at all monitoring sites in the distribution system, at all times.

Visit the links below to learn more…

* [USEPA Optimization Tools for Reducing Disinfection Byproducts](https://www.epa.gov/sdwa/optimization-reduce-disinfection-byproducts-dbps) – Includes a four-part recorded webinar series introducing tools that water systems can use as well as several study protocols and supporting spreadsheets.
* [AWWA Partnership for Safe Water – Distribution System Optimization](https://www.awwa.org/Resources-Tools/Programs/Partnership-for-Safe-Water/Distribution) – Includes a [program overview](https://www.awwa.org/Portals/0/AWWA/Partnerships/PSW/PSWD_Download_program_overview_092820.pdf?ver=2020-09-28-125949-707) containing goals for disinfectant residual, system pressure, and main break frequency.