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Winburne Volunteer Fire Company
Winburne, Pennsylvania

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
October 5, 2025
Summary Report

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The Purpose

- The purpose of the seminar and drill was to review the basics of rural water supply operations and to practice water supply operations in a non-hydranted setting.
- The drill also allowed mutual aid companies to work together in a real-life training situation.

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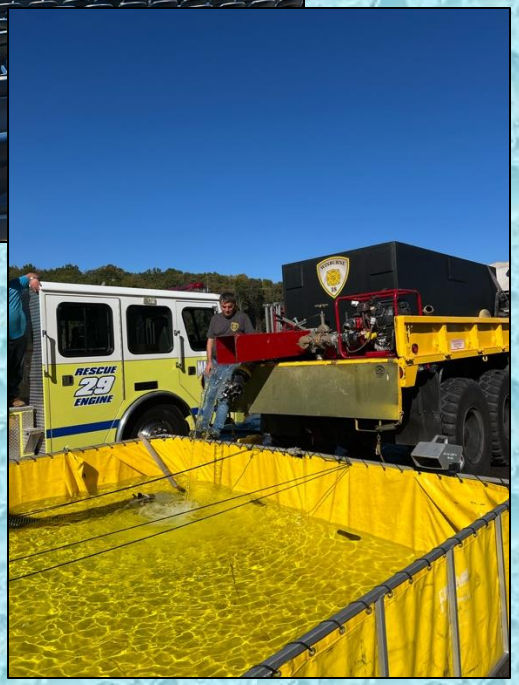
The Seminar



- The 2-day seminar started with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the West Branch High School.
- Once the classroom part was over, the seminar continued with 8 hours of practical work on fill-site and dump site operations.
- The program concluded with the 2-hr ISO tanker shuttle exercise and program review.
- Seminar participants were from Clearfield County and the surrounding area.

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The 2-hour Water Supply Drill

- The tanker shuttle drill was held on October 5th at the local VFD activities center.
- The drill attempted to replicate the 2-hour Water Supply Delivery Test used by ISO in their evaluation of fire department water supply capabilities.
- While ISO no longer uses the physical demonstration of water supply delivery, the 2-hour test is still a reasonable standard by which fire departments can compare their water supply operations.
- *ISO now uses computer modeling to predict tanker shuttle flow capabilities.*

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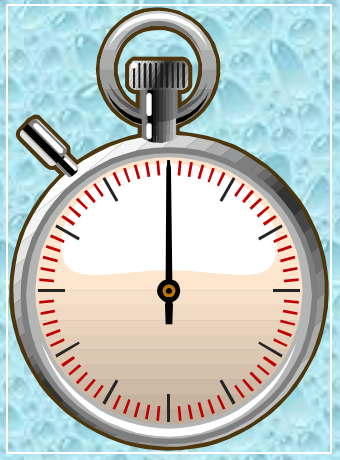
The ISO Test

- The ISO 2-hour Water Supply Delivery Test has three critical time segments:
  - 0:00 to 5:00 minutes
  - 5:01 to 15:00 minutes
  - 15:01 to 120:00 minutes



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ISO Test *0:00 to 5:00 Minutes*

- A drill location is selected and the units due to respond on the first-alarm assignment are dispatched.
- Time starts when the first engine arrives on the scene and comes to a complete stop.
- There is no requirement to flow water during the first 5 minutes, but the crew must be prepared to flow water once the 5-minute mark is reached.

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ISO Test *5:01 to 15:00 minutes*

- At the 5-minute mark, a flow of at least 250 gpm must be started - and it must be sustained.
- During the next 10-minutes, crews can work to further develop their water supply and increase their flow, however…
- At the 15-minute mark (5+10), whatever amount of water is flowing at that time must be maintained for the remainder of the 2-hour test.

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ISO Test *15:01 to 120:00 minutes*

- Once the 15-minute mark has been reached, the remainder of the 2-hour test is really just about ***sustaining*** the flow.
- The ISO test includes the simulation of automatic mutual aid response and allows additional water supply units to arrive and assist in the delivery process as would happen on a real incident.
- The real advantage of the ISO test is that it gives a fire department the chance to see where improvements can be made in their water supply delivery process.

It is one thing to say that your fire department can deliver 500 gpm for two hours – it is another thing to prove it in a real-life drill scenario!

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Water Supply Drill Participants

Participants				
Department	**Unit**	**Pump Size (gpm)**	**Tank Size (gallons)**	**Dump Tank (gallons)**
Alpha	T5-2	1000	3000	2500
Brady Twp	T30	500	3000	3000
Grassflat	E/T19	1500	1500	2100
Hyde	E/T	1250	1800	
Karthaus	E20	1250	1000	
Mahaffey	E29	1000	1000	
North Point	T39	500	2500	2500
Winburne	B/T18	500	1500	2100
Winburne	E/T18	1750	1700	2100
Winburne	E18	1500	300	

- *The participants for the drill were from several different fire departments in the Clearfield County region and the water hauling apparatus was representative of the type of water supply support that would respond to a structure fire in the Winburne area.*

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The Drill Begins

The drill started with crews executing a rural hitch operation using a 5” double-clappered siamese. Karthaus E20 arrived on the scene and laid out 200-feet of 5-inch supply hose and went to work as the attack pumper. Shortly thereafter Winburne E/T 18(2100 gal) arrived and began supplying the rural hitch. All tankers assigned to the drill pumped off their water through the rural hitch until about the 35 minute mark.

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Dump Site Operations

A two tank dump site was set up with Mahaffey RE29 serving as the dump site pumper.

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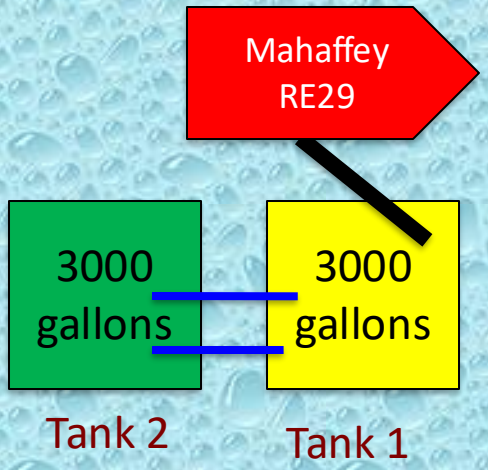
Dump Site Layout



Suction Hose

Jet Siphon

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The Fill Site

- For this drill – one fill site was used – at a reservoir on Emigh Run off of St. Rt. 53
- The fill site provided about a 3.0-mile round trip for the units hauling water.
- The site had ample water volume to support the drill, and access was not a problem.
- Grassflat ET19 (1500 gpm) was used at the fill site to load tankers.

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Fill Site

ET19 drafted from the reservoir and supplied two fill lines. Unfortunately vegetation was a problem and the fill site crew had to deal with clearing clogged strainers. Water supply was intermittently down, thus limiting the overall flow to 500 gpm.

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The Results

- The drill was stopped at the 2-hour mark.
- An estimated 50,000 gallons of water were flowed through the attack pumper during the drill producing an average flow rate of 500 gpm.

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The Lessons Learned

- At this drill, crews chose to use a rural hitch operation to get things started. The crews did a good job in directing the traffic flow to optimize this process.
- Using the rural hitch gave the crews time to get a dump tank set-up without the added pressure of having to draft and flow water right away.
- All tankers, including a brush tanker, were able to flow enough water to support the rural hitch.

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The Lessons Learned

- It is ok to vary the route that tankers drive during an operation to make things more efficient. During this drill, while performing the rural hitch, tankers came into the incident scene and looped around to pump off the right side high flow discharges. During the dump tank operation, the tankers switched to coming in and dumping off of the left, so that the drivers could have an easier time of spotting the tanks.
- Site selection for drafting is important, and keeping vegetation away from strainers is critical.

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The Lessons Learned

- A tanker fill-site needs to run like a NASCAR pit stop. Anything that slows down the loading of tankers is going to reduce the efficiency of the tanker shuttle.
- At this drill, there was some variance in how the tankers loaded – meaning the fill connection. Having the same type of fill connections across a region, makes it easier on the fill site crew and leads to faster fill times and higher overall gpm delivered.

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The Lessons Learned

- Jet siphons, suction hose, and dump tanks are needed at most every dump tank operation – therefore, it is wise to carry those items on every tanker – as well as adaptors.
- Atypical apparatus, such as a brush tanker, can still be used to support a rural water supply operation, provided that they are outfitted with a pump at a minimum. The brush tanker in this drill, also had a dump chute to assist in dump tank operations.

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Drill Videos

Be sure to watch videos from the drill on the GotBigWater YouTube Channel.

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Summary

- The drill was a good chance to practice many different skills important for rural water supply. During this drill, folks were able to practice the rural hitch and migrating to a dump tank operation.
- The success of the drill showed the importance of mutual aid response practices and procedures – and the importance of mutual aid interoperability.
- Many thanks to the Winburne Fire Department for sponsoring and hosting the seminar.

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