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McCurtain County Firefighters Association
McCurtain County, Oklahoma

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
March 18, 2018
Summary Report

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.

The Seminar

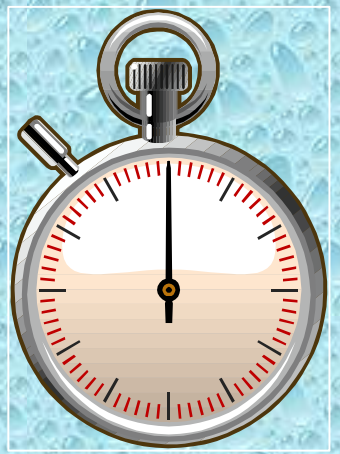
- The 2-day seminar started with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the McCurtain County Training Center in Broken Bow, OK.
- Once the classroom part was done, the seminar continued with 8 hours of practical work on fill-site and dump site operations.
- The program concluded with the 2-hr ISO tanker shuttle exercise and program review.
- Seminar participants were from McCurtain County and the surrounding area.

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on March 18th in Ringold at one of Ringold's fire stations.
- 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.*

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



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.

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.

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!

Water Supply Drill Participants

- *The participants for the drill were from several different fire departments in the McCurtain 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 Broken Bow/Ringold area.*

Drill Participants

- Eagletown Engine 4022
  - 1250 gpm pump w/1,000 gal tank
- Eagletown Tanker 1
  - 150 gpm pump w/3000 gal tank

Drill Participants

- Eagletown Tanker 2
  - 1,000 gpm pump w/3000 gal tank
- Ringold Truck 1
  - 1500 gpm pump w/750 gal tank

Drill Participants

- Ringold Truck 7
  - 500 gpm pump w/2500 gal tank
- Ringold Truck 8
  - no pump w/6000 gal tank

Drill Participants

- Broken Bow Tanker 2
  - 750 gpm pump w/5000 gal tank
- Hochatown Engine 65
  - 1500 gpm pump w/1000 gal tank

Drill Participants

- Hochatown Tanker 30
  - 1,000 gpm pump w/3000 gal tank
- Ringold Trailer Pump
  - (2) 550 gpm pumps

The Drill Begins

Hochatown Engine 65 was the first-arriving engine and laid a 200-ft, 5-inch supply line and set up as an attack engine. A clappered siamese was not available, so a 2-1/2”x2-1/2”x5” gated wye was used (reversed) so that nurse tanker operations could be used to support the initial attack.

Dump Site Operations

Hochatown Tanker 30 (3,000 gal) was the next unit to arrive on the scene. The crew used a pre-connected length of 2-1/2” hose line to quickly connect to the siamese and supply the attack engine. A 250 gpm flow was started at the 5-minute mark.

Dump Site Operations

Eagletown Engine 4022 (1250 gpm) was the next arriving engine and went to work setting up as the dump site engine. The first dump tank (3500 gal) was taken from the nurse tanker.

Dump Site Operations

Transition to dump site operations occurred around the 12-minute mark (yellow hose) and the nurse tanker dumped the remainder of its water into the dump tanks and left to reload. Flow had been moved to 350 gpm at the 8-minute mark.

Dump Site Operations

The dump site engine charged the second supply line feeding the gated wye and the dump site was now ready to increase flow to the attack engine.

Dump Site Operations

More tankers began to arrive in the form of a Tanker Task Force. Eagletown Tanker 2 (3000 gal) is shown here dumping its first load of water.

Dump Site Operations

Broken Bow Tanker 2 (5000 gal) was next arriving and quickly contributed its water to the dump site operation. Flow was moved to 500 gpm were it stayed for the remainder of the drill.

Dump Site Operations

Water transfer operations quickly became important as a third dump tank was deployed. Several jet siphons were used to move water between tanks.

Dump Site Operations

The first tanker returned from the fill site at the 34-minute mark….just in time for its water to be used.

Dump Site Operations

With the flow now at 500 gpm, three dump tanks were fully in use and supporting the operation.

Dump Site Operations

Around the 45-minute mark, a fourth dump tank was deployed and placed into operation.

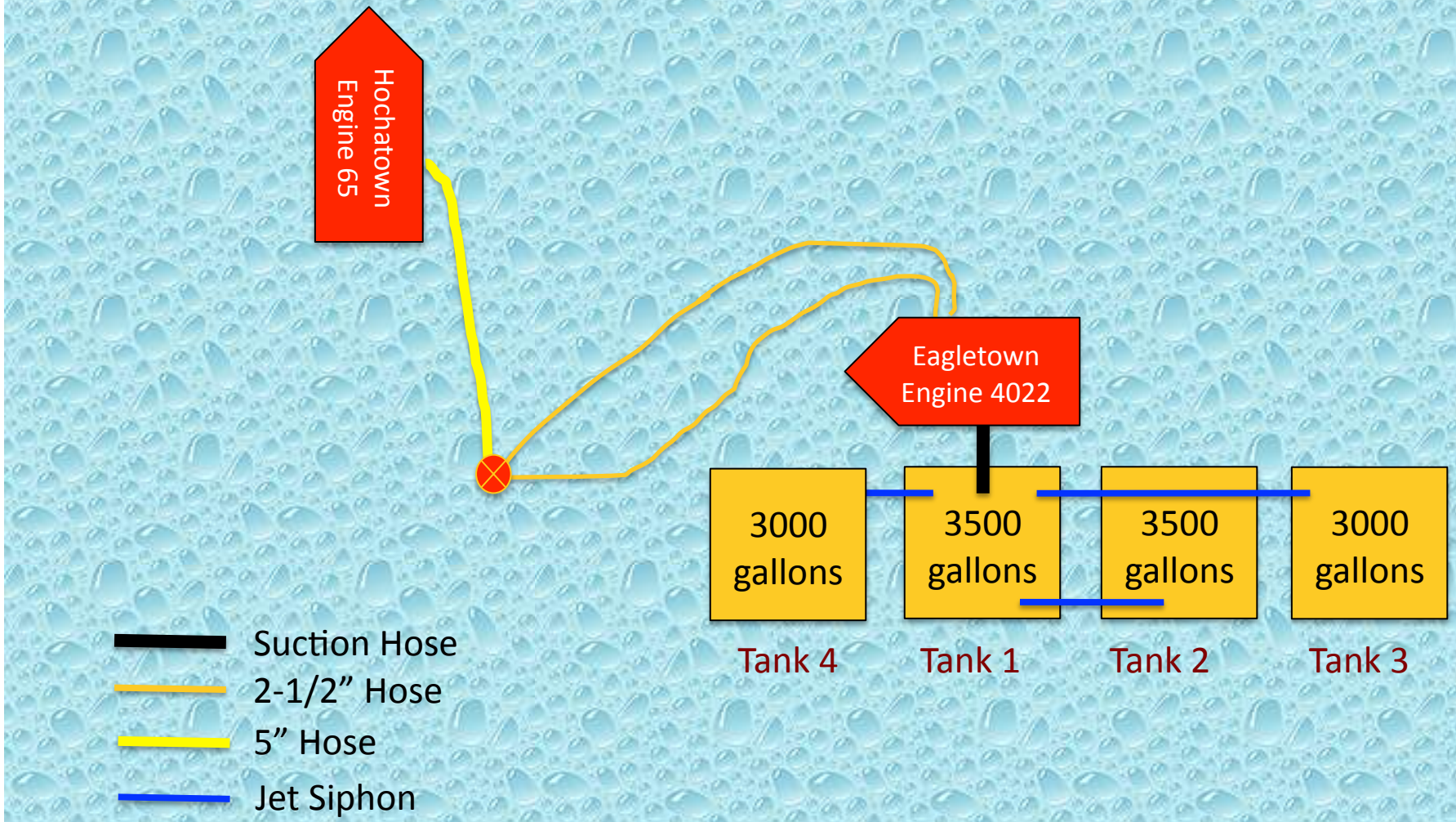
Dump Site Operations

"Big Shirley" arrived on the scene and dumped its 6000 gallons of water to help support the effort. At this point in the drill, one of the fill sites had to shut down due to an equipment failure.

Dump Site Operations

In the end, the crews used a four-dump tank set-up to support a 500 gpm that was never interrupted during the entire drill.

Dump Site Layout



The Fill Site

- For this drill – two fill sites were used. Both were located at Tucker Lake and provided about a 6.2-mile round trip for the units hauling water.
- The lake provided ample water volume to support the drill and access was not much of a problem – other than the suction hose needed to reach the water..
- An 1,100 gpm trailer pump and a 1,500 gpm pumper were used at the lake to support the tanker fill stations.

Fill Site Operations

Ringold's trailer pump, outfitted with two, 550-gpm pumps connected in parallel was used to load tankers at Tucker Lake. Ringold's Truck 1 (1500 gpm pumper) was used as well – drafting through a dry fire hydrant.

The Results

- The drill was stopped at the 100-minute mark due to time constraints and an equipment failure at one of the fill sites.
- Water flow was never interrupted during the entire drill – which was quite a feat given the distance and number of tankers.
- An estimated 42,850 gallons of water were flowed through the attack engine during the drill producing a 451 gpm average flow.

The Lessons Learned

- At this drill, a nurse tanker operation was used during the early moments of the drill which allowed the crews to set-up the dump site without the pressure of running out of water in a couple of minutes.
- The need for LDH appliances was reinforced. While the gated wye worked okay, a siamese would have worked better during the nurse tanker operation.

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, a trailer pump was used to load tankers. This presented a very unique concept and freed up the need for a pumper. The trailer pump was very effective and efficient.

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.
- The "bundling" of water hauling mutual aid resources has proven successful in many drills. The tanker task force concept again proved to be an effective process for requesting and using additional rural water supply resources.

Drill Videos

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

Summary

- The drill was a success. For the new folks, they got to see how dump tank operations work.
- For the older, experienced folks, it was a chance to practice their "craft."
- 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 McCurtain County Firefighters Association for sponsoring and hosting this seminar.

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This program was developed by
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