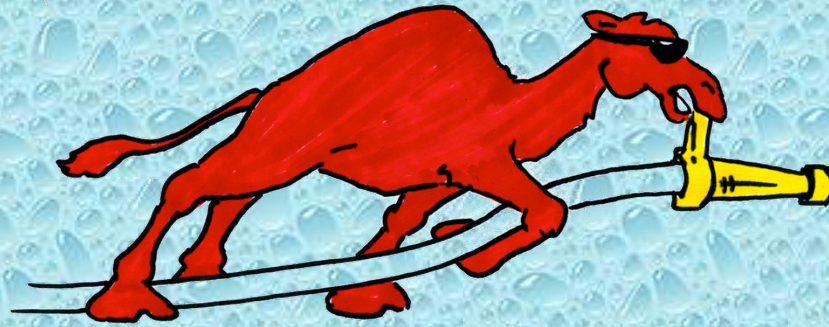


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Shelby County EMA
Calera, Alabama

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
May 2, 2021
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 and allowed the Shelby County First Battalion Tanker Task to practice their water supply support process.



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 Rolling Hills Center in Calera, Alabama.
- 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 Calera and surrounding departments.

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on May 2nd in Calera at a large, commercial development area.
- The drill simulated the deployment of the Shelby County First Battalion's Tanker Task Force to the City of Calera to supply water for a large scale fire attack operation.
- Calera Engine 23 was pre-positioned and awaited the arrival of the Tanker Task Force to initiate water flow.
- The Tanker Task Force's job was to develop a sustained water supply for the duration of the 2-hr event.



Water Supply Drill Participants

Department	Unit	Pump Size	Tank Size	Dump Tank
Calera	Engine 23	1500 gpm	1000 gal	
Brierfield	Engine 202	1500 gpm	750 gal	
Brierfield	Tanker 206	1000 gpm	2500 gal	2500 gal
Brierfield	Engine 203	1000 gpm	1500 gal	
Pea Ridge	Tanker 101	250 gpm	1800 gal	2500 gal
Dry Valley	Engine 51	1500 gpm	500 gal	
County 17	Engine 212	1000 gpm	500 gal	
County 17	Tanker 213	1500 gpm	2100 gal	2100 gal
Four Mile	Tanker 263	1250 gpm	2000 gal	2000 gal
Summer Hill	Tanker 280	1000 gpm	2500 gal	3000 gal
Montevallo	Engine 81	1500 gpm	1000 gal	

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

The Drill Begins



The drill began with Calera Engine 23 arriving on the scene and laying out a 5-inch LDH supply in preparation for the arrival of the First Battalion Tanker Task Force

Dump Site Operations



As the first units from the Tanker Task Force began to arrive, crews worked to get nurse tanker operations underway using a double-clapped siamese.

Water Flow Starts at 500 gpm



At the 2:20-minute mark after the arrival of the first Tanker Task Force units a 500 gpm water flow was started using nurse tanker operations.

Dump Site Operations



Brierfield Tanker 206 was the first rig to supply the double-clappered siamese. Brierfield Engine 202 works to set up a dump site operation in anticipation of a higher fire flow.

Dump Site Operations



County 17 Tanker 213 was the next tanker to arrive and took action to support the nurse tanker operation while the dump site was built out. Pea Ridge Tanker 101 arrived thereafter but was used to support the dump site transition.

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Dump Site Operations



By the 10-minute mark, the first dump tank was down and ready for water.

Dump Site Operations



The transition from nurse tanker to dump tank operation occurred without issue.

Dump Site Operations



The dump site crew did not remove the valved LDH appliance that was on the attack engine's (E23) supply line. The valve did not prove problematic; no unit pumped into it...all water went through the siamese.

Dump Site Operations



The dump site crew decided to arrange dump tanks to the rear of Engine 202 so as to keep a traffic lane open for tankers to pass through. In this photo, Pea Ridge Tanker 101 dumps the first load of water at the 10:15-minute mark.

Dump Site Operations



Around the 20-minute mark the suction strainer being used in the primary dump tank came apart and had to be replaced with a different one. Fortunately, the change out was quick and water flow was not interrupted.

Dump Site Operations



Montevallo Engine 81 arrived on the scene and was directed to pump off its water into a dump tank before heading to set up a fill site. The rig pumped off its water using a 3-inch hose line and positioned out of the way so as not to impede tanker movement.

Dump Site Operations



Water flow was moved to 800 gpm at the 55-minute mark and then again to 1100 gpm at the 75-minute mark.

Dump Site Operations



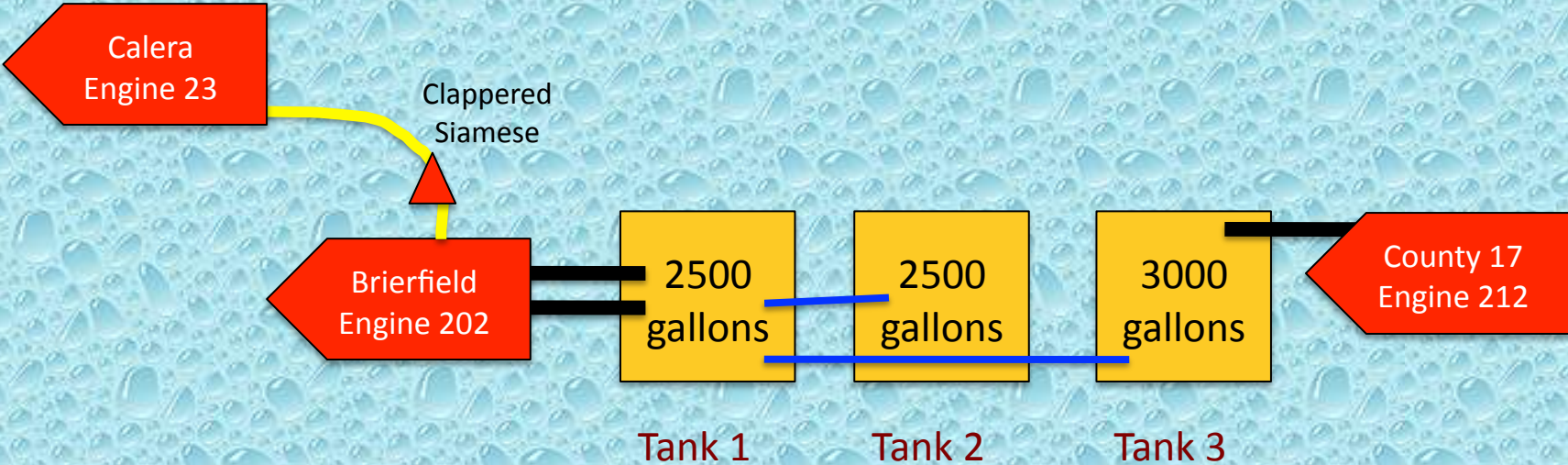
Three dump tanks were down at the 55-minute mark and two were in operation.

Dump Site Operations



In this final photo from the dump site we see a peak flow of 1100 gpm and three dump tanks in use. County 17 Engine 212 (lime green) was brought in to help run jet siphons so that Engine 202 could focus on supplying the attack engine.

Dump Site Layout



- 5-inch LDH
- Suction Hose
- Jet Siphon

The Fill Sites

- For this drill – two fill sites were used – both at Nazarene Church Lake.
- The fill sites both provided about a 2.1-mile round trip for the units hauling water.
- Both sites had ample water volume to support the drill and access was not a problem.
- Two, 1,500 gpm pumpers were used at each site to support the fill stations.

Fill Site Operation



Dry Valley Engine 51 arrives at the fill site and goes to work setting up a loading station in order to be ready for the arrival of the first tanker.

Fill Site Operation



Getting set up for drafting and supplying a 5-inch line to a manifold for tanker loading operations.

Fill Site Operation



Engine 51 supplied a 5-inch hose line which fed an LDH manifold out at the roadway where tankers were loaded.

Fill Site Operation



Pea Ridge Tanker 101 was one of the first tankers to arrive at the fill site and the crews were ready to load. Most all of the tankers were loaded using 5-inch hose and at rates over 1000 gpm.

Fill Site Operation



A couple of traffic cones were deployed to show tanker drivers where to stop for loading...this reduced the need to haul the 5-inch hose back and forth.

Fill Site Operation



Montevallo Engine 81 eventually set up a second loading station at the lake which improved the turn-around time of tankers.

Fill Site Operation



A combination of an LDH manifold and jumbo wye were used to control the loading operations.

The Results

- The drill was stopped at the 2:00-hour mark.
- Water flow was interrupted once during the drill while operational changes were made to improve jet siphon operations.
- An estimated 78,000 gallons of water were flowed through Engine 23 during the drill producing an average flow rate of 682 gpm.
- A peak flow of 1,100 gpm was achieved during the last 40-minutes of the drill.

The Lessons Learned

- The First Battalion Tanker Task Force crews are well versed in water supply operations using tankers and went right to work as soon as they arrived on the scene.
- Nurse tanker operations were used during the first 10-minutes while the crew worked to set up dump tanks.
- Common practices and equipment are what make the task force work like a well-oiled machine.

The Lessons Learned

- As the flow increased, additional dump tanks were used to support the operation.
- Eventually, a second engine was used to support jet siphon operations.
- The rear mounted pump on Engine 202 made the single-lane tank arrangement quite easy to set up.

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, most all of the tankers had the same fill connection which allowed the rigs to get filled and be back on the road in little time.

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 Shelby County EMA for sponsoring and the Calera FD for hosting this seminar.



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