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Little Compton Fire Department
Little Compton, RI

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
June 2, 2013
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 on Saturday with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the Wilbur-McMahon School in Little Compton.
- Once the classroom part was done, the seminar continued with several hours of practical work on fill-site and dump site operations.
- The program concluded on Sunday with the 2-hr ISO tanker shuttle exercise and program review.
- Seminar participants were from Little Compton and surrounding communities in Rhode Island and Massachusetts.
- Instructors for the program were Alan Butsch and Tom Coe.

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on June 2nd at the Warren's Point Beach Club in Little Compton, RI.
- 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 everyone in the fire service may not agree on ISO's evaluation of fire department capabilities, the 2-hour test is still a reasonable standard by which fire departments can compare their water supply operations.



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 8 different fire departments and the water hauling apparatus was representative of the type of water supply support that would respond to a structure fire in Little Compton and surrounding areas.*

Drill Participants

- Little Compton Engine 1
 - 1250 gpm pump with 1000 gal tank

- Little Compton Engine 2
 - 1250 gpm pump with 1000 gal tank



Drill Participants

- Little Compton Tanker 1
 - 1000 gpm pump w/
3000 gal tank
- Middletown Tanker 1
 - 500 gpm (pto) pump
w/2,500 gal tank



Drill Participants

- Warren Engine 6
 - 1500 gpm pump
w/2,000 gal tank



- Westport Engine 1
 - 1,500 gpm pump
w/1,800 gal tank



Drill Participants

- Seven personnel from Prudence Island also attended – but their apparatus wouldn't fit on the ferry so they couldn't bring it!
- We also had a few folks from the Watch Hill, Potterfield, and N. Smithfield Fire Departments in attendance.



Preparation



Units staged in the parking lot at the Wilbur School. Crews were briefed and units were prepared for dispatch.

The Drill Begins



LC Engine 1 was the first-arriving unit at the Beach Club and assumed the role as the attack pumper. The stopwatch was started when the Engine driver applied the air brakes. Because of manpower and equipment shortages, we elected to use a wagon pipe to begin flowing water. Flows were verified via Pitot Gauge.

Dump Site Set-up



Crews from Little Compton and Prudence Island began to quickly set up the dump site as the first two tankers get into position.

Water Flow Begins



Little Compton Tanker 1 was the first tanker to arrive and provided a dump tank and additional water – all before the 5:00 minute mark. Westport Tanker 1 also arrived quickly and provided the second tank and more water. Water started flowing just shy of the 5 minute mark.

Dump Site Set-up



Because of the scarcity of equipment, the IC elected not to use a nurse tanker. All 4 tankers operated in the dump and run mode.

Dump Site Set-up



At the 7:00-minute mark, two dump tanks were down and the dump site was operational. The dump site engine switched from tank water to drafting – and dump site operations were underway.

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Dump Site Set-up



The third dump tank was obtained from the third tanker and crews quickly got it set up – but it would be a while before it got used continuously.

Command



Command was established and a system of organization began to develop.

Three Dump Tanks Down



At the 15:00 -minute mark, flow was increased to 500 gpm. Here, Warren Engine 6 gets ready to dump. This was the final load of the initial assignment.

Dump Site Operations



Crews did a nice job of spacing the tanks so that two tankers could dump at once. However, the opportunities to do this were somewhat limited.

25 minutes to 80 minutes



LC Tanker 1 made it back right about the 25 minute mark – just in time to keep flow going. The target flow was cut back to 250 gpm. Tankers thereafter were able to keep the main dump tank full but little more – until about the 80 minute mark.

Dump Site Operations



When using detachable dump chutes, it is often easier to just leave the chute at the dump site instead of trying to remove it and stow it in a compartment each time. Here LC Tanker 1 uses their detachable chute – but would leave it on the scene each time.

Dump Site Operations



Middletown Tanker 1 dumps its 2500 gallons of water. After filling up the main tank, the tanker moved down to dump a little extra in the side tank. However, this crew soon moved on as the critical dump time of 90 seconds for this piece was just about over. Just about all tankers in this drill were able to dump about 90% of their load within 90 seconds.

Water Transfer Operations



This drill featured two different kinds of siphons. The tube on the left is a Holley tube which seemed to move a lot of water and could get down very low in the tank. However, it could not “throw” the water laterally as easily as the traditional jet siphon pictured on the right. The crews knew this and spaced the tanks accordingly.

Water Transfer Operations



The flow from this Holley tube is a good, solid stream of water – which is exactly what is needed.

Be Careful!



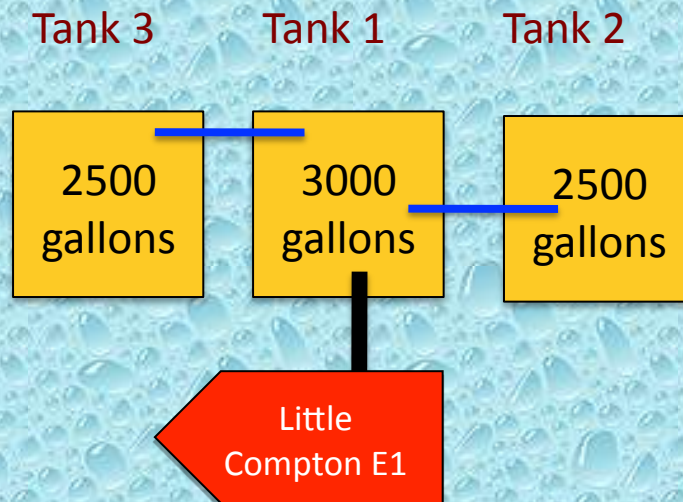
Tankers, as well as normal Sunday afternoon traffic, were traveling down a 1.5 lane road. Here a tanker was forced to yield the right of way. Soft shoulders are an extreme hazard and seatbelts are a must!

Dump Site Operations



At about the 80 minute mark, the crews noticed that they were finally gaining ground and were able to go to a three tank operation at about the 100 minute mark. Flow was increased to 500 gpm at 110 minutes for the last 10 minutes of the drill.

Dump Site Layout



— Suction Hose

— Jet Siphon

The Fill Sites

- For this drill – one fill site was used.
- The fill site was north of Warren Point Road on Main St. The crews elected to use the dry hydrant which was plumbed into a pond.
- As experienced in the practice sessions, the dry hydrant probably had limited flow. Unfortunately direct access with hard sleeves would have been problematic.

Fill Site



The crew used LC Engine 2 and quickly set up using the dry hydrant – again fed by the pond in the left picture.

Fill Site Ops



This wasn't the prettiest hook up but the crew was ultimately able to support a fill rate of around 900 gpm. To augment this the crew could have used another set of hard sleeves to the pond or used the booster tank (and refilled it when no tanker was waiting to be filled). However, there was limited manpower and folks were hustling.

Fill Site Set Up



The crew had a hard time assembling the right adapters and hoses – but once they had the set up fixed, the fill times got better. They originally used a couple of 2.5” hoses – but switched over to 4” and 3” – which worked much better.

The Results

- The drill was stopped at the 2:00-hour mark.
- Water flow was never interrupted!
- An estimated 37,000 gallons of water were flowed through the attack engine during the drill producing an average flow rate of 293 gpm.

The Lessons Learned

- At this drill, the dump site was set-up very quickly and crews really hustled to sustain the water flow in the early stages.
- The Beach Club provided ample space for this large operation and traffic flow was not a problem.
- Even though folks were from different departments, they worked together well with the limited equipment available.

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, almost every tanker had a different size fill connection. Fill site crews figured this out - but putting on different adapters slowed things down a bit.

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.
- 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.

The Lessons Learned

- Although most of pumpers and tankers could work with 5-inch LDH, there was a very limited number of LDH valves and appliances available for use.
- Having short sections of LDH available to fill with helps immensely.

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 Little Compton Fire Department for sponsoring and hosting this seminar.



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