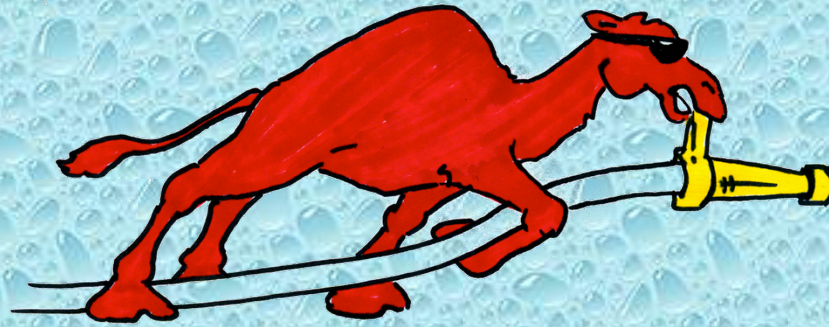


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Sennett Fire Department
Sennett, New York

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
April 24, 2022
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 Sennett fire station.
- 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 Cayuga County and the surrounding area.

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on November 14th at in Emerson Park at Owasco Lake.
- 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

Participants				
Department	Unit	Pump Size	Tank Size	Dump Tank
Sennett	Tanker Pumper 3	1500 gpm	1500 gal	2100 gal
Sennett	Tanker 1	1000 gpm	2000 gal	(2) 2100 gal
Scipio	Tanker 1	750 gpm	3500 gal	3500 gal
Jordan	Tanker 1	1500 gpm	3000 gal	3000 gal
Hannibel	Tanker 1251	750 gpm	2000 gal	2000 gal
Weedsport	Rescue Pumper 1	2000 gpm	1000 gal	NA
Weedsport	Tanker 1	500 gpm	2100 gal	2100 gal
Warners/Memphis	Tanker 23	1000 gpm	2000 gal	2100 gal
Plainville	Engine 3	1750 gpm	1500 gal	2100 gal
Plainville	Tanker 1	1000 gpm	2000 gal	2100 gal
Granby Center	Tanker 1051	500 gpm	2200 gal	NA
Aurelius	Tanker 1	NA	1800gal	2000 gal
Northwest	Engine 41	2000 gpm	1500 gal	NA
Owasco	Marine 1	1250 gpm	NA	NA

- The participants for the drill were from several different fire departments in the Cayuga 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 Sennett area.*

Drill Participants

- Sennett Tanker Pumper 3
 - 1500 gpm pump w/1500 gal tank
- Sennett Tanker 1
 - 1000 gpm pump w/2000 gal tank



Drill Participants

- Scipio Tanker 1
 - 750 gpm pump
w/3500 gal tank
- Jordan Tanker 1
 - 1500 gpm pump
w/3000 gal tank



Drill Participants

- Hannibel Tanker 1251
 - 750 gpm pump
w/2000 gal tank
- Weedsport Rescue Pumper 1
 - 2000 gpm pump
w/1000 gal tank



Drill Participants

- Weedsport Tanker 1
 - 500 gpm pump
w/2100 gal tank

- Warner/Memphis Tanker 23
 - 1000 gpm pump
w/2000 gal tank



Drill Participants

- Plainville Engine 3
 - 1750 gpm pump
w/1500 gal tank
- Plainville Tanker 1
 - 1000 gpm pump
w/2000 gal tank



Drill Participants

- Granby Center Tanker 1051
 - 500 gpm pump w/2200 gal tank
- Aurelius Tanker 1
 - 1800 gal tank



Drill Participants

- Northwest Engine 41
 - 2000 gpm pump
w/1500 gal tank
- Owasco Marine 1
 - 1250 gpm pump



The Drill Begins



The drill was run as a simulated deployment of the Tri-County Water Supply Task Force. Crews rallied at the Sennett fire station and then convoyed several miles away to a simulated fire event location. The goal was to have a large-scale (1000 gpm+) operation up and running within 10-15 minutes of arrival. Weedsport Rescue Pumper 1 (2000 gpm) operated as the dump site pumper.

Dump Site Operations



One of the dump tanks used was a 3000-gallon Single-Lane Max tank from Fol-Da-Tank. This was one of just two times where we have seen the Single-Lane Max tank used. It worked quite well.

Dump Site Operations



The folks chose to use a “through-the-drain sleeve” set-up for drafting. A TFT low-level strainer was used as the suction strainer.

Dump Site Operations



The initial grouping of resources included water hauling rigs plus two engines to assist with dump site and fill site operations. Owasco's fire boat was also deployed as a fill site resource.

Dump Site Operations



The 2000 gpm pumper had plenty of capacity to support a 1000 gpm+ flow and operate water transfer devices at the same time.

Dump Site Operations



At around the 13:00 minute mark water flow was started at 900 gpm and eventually made it to 1250 gpm and then 1700 gpm near the end of the drill.

Dump Site Operations



Additional water hauling resources arrived as part of a second, tanker task force.

Dump Site Operations



With three dump tanks in use and flow expected to exceed 1500 gpm, one person was assigned the job of controlling the water transfer devices.

Dump Site Operations



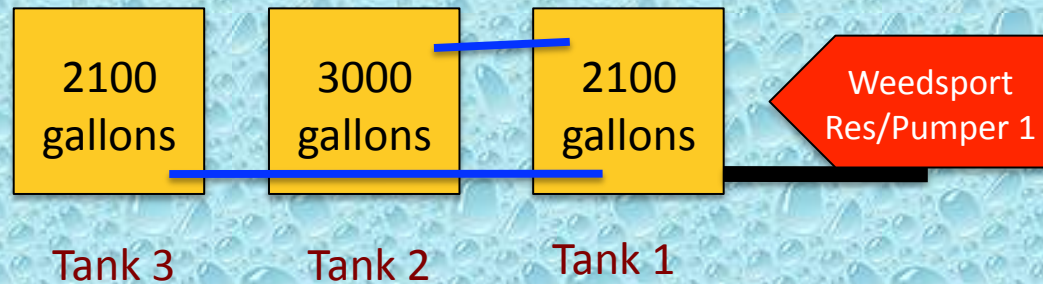
The dump site crew chose to use a single-lane tank arrangement. Traffic cones were used to restrict lane access to the tanks thus simulating a real life road condition in the large parking lot. A 90-degree suction elbow was used to better access the dump tanks.

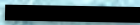

Dump Site Operations



By the end of the drill, flow peaked at 1700 gpm using a Hose Monster flow diffuser and a TFT Blitzfire device. The single, 2000 gpm pumper was able to support the entire dump site operation.

Dump Site Layout



 Suction Hose
 Jet Siphon

The Fill Sites

- For this drill – two fill sites were used; both using water from Owasco Lake.
- The fill sites both provided about a 1.4-mile round trip and a 4-mile round trip for the units hauling water.
- Both locations had ample water volume to support the drill and access was not a problem.
- A 1250 gpm fire boat and a 1750 gpm pumper were used to support the fill sites.

Lake Fill Site



Owasco Marine 1 (1250 gpm) took water from a canal location and supplied an LDH line out to an LDH manifold where tankers were then loaded.

Lake Fill Site



Three personnel were used to load the tankers; two folks made and broke connections and one person served as the “loader” and operated the LDH manifold control valves. While two tankers might have been connected at one time, only one at a time was loaded.

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Outlet Fill Site



The second fill site was located a bit farther away along Owasco Lake outlet. Plainville Engine 3 (1750 gpm) drafted from the dam area and supplied an LDH manifold for loading tankers.

Outlet Fill Site



“Special” drain devices provided by Plainville were used to speed up the draining process of the fill lines in between loading operations.

The Results

- The drill was stopped at the 2:00-hour mark.
- Water flow was only interrupted once for about 1-1/2-minutes seconds around the 39-minute mark in the drill.
- An estimated 119,700 gallons of water were flowed through the attack pumper during the drill producing an average flow rate of 1,112 gpm.
- A peak flow of 1,700 gpm was achieved during the last 10-minutes of the drill.

The Lessons Learned

- At this drill, the goal was to simulate the deployment of the Tri-County Water Supply Task Force.
- The water supply task force concept worked as planned and crews had a 1000 gpm operation up and running in less than 15-minutes after their arrival.
- The use of a 2000 gpm pumper at the dump site made dump site operations easy given the flow goal and the resources available for use.
- The fire boat allowed for fast set up of a tanker loading station.

The Lessons Learned

- The single-lane tank arrangement made it easy for tanker off-loading and the Single-Lane Max tank proved quite useful in the operation.
- 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 the Sennett and Owasco Fire Departments for sponsoring hosting the seminar.



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