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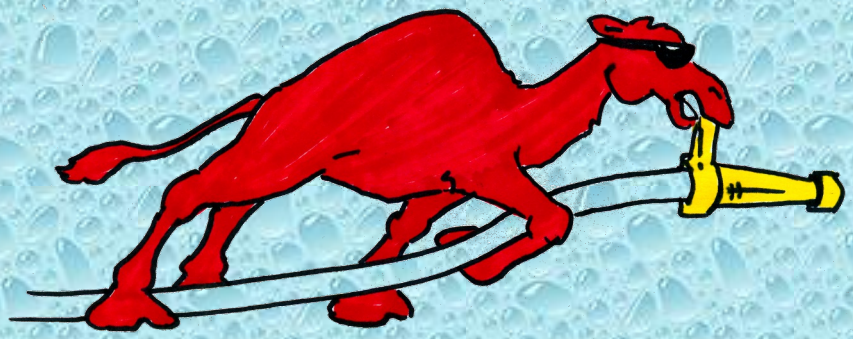


Clyde-Galen Fire District
Clyde, New York

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
October 8, 2023
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

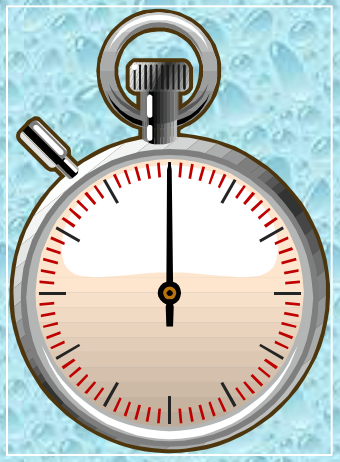
- The 2-day seminar started with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the Clyde fire station.
- Once the classroom part was over, the seminar continued with 8 hours of practical work on fill-site and dump site operations.
-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

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on October 8th at the Clyde FD activity grounds.
- 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**
Clyde	Engine 44	1000 gpm	1250 gal	NA
Clyde	Engine 48	1250 gpm	1250 gal	2100 gal
Clyde	Engine 49	1250 gpm	1250 gal	NA
Clyde	Quint 3	2000 gpm	500 gal	NA
Oaks Corners	Engine 3231	1500 gpm	1500 gal	1500 gal
Savannah	Engine 51	1250 gpm	2000 gal	2100 gal
Savannah	Tanker 27	NA	2100 gal	2100 gal
Fayette	Tanker 421	NA	2400 gal	3000 gal
Junius	Tanker 722	NA	3000 gal	3000 gal
Waterloo	Tanker 1621	NA	2100 gal	2100 gal
Wolcott	Tanker 31	300 gpm	3000 gal	2100 gal
Fairville	Tanker 15	1500 gpm	3150 gal	(2) 2100 gal

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

The Drill Begins

With Clyde Quint 3 already in position, Clyde Engine 49 arrives on the scene and the timer is started. Crews stretch a supply line to the quint and await the arrival of the first alarm tankers.

Dump Site Operations

Water flow is started at 250 gpm at the 5:00-minute mark using a TFT Blitzfire. Engine 49 supplies Quint 3 with tank water while the dump site is being set up.

Dump Site Operations

As tankers begin to arrive the crews work to set up dump tanks. A ”single-lane” arrangement was chosen as the layout for this drill.

Dump Site Operations

Crews work to build the dump site while still supporting the 250 gpm flow to the quint.

Dump Site Operations

A Holley Transfer Pipe was deployed as the first water transfer device. However the distance between the two tanks proved problematic and a traditional suction hose jet transfer arrangement replaced this set-up.

Dump Site Operations

Flow was moved to 500 gpm around the 38-minute mark; to 750 gpm at the 75-minute mark, and then again to 1000 gpm at the 92-minute mark.

Dump Site Operations

A 3000-gallon Fol Da Tank Single-Lane Type II tank was deployed as the 3rd dump tank down.

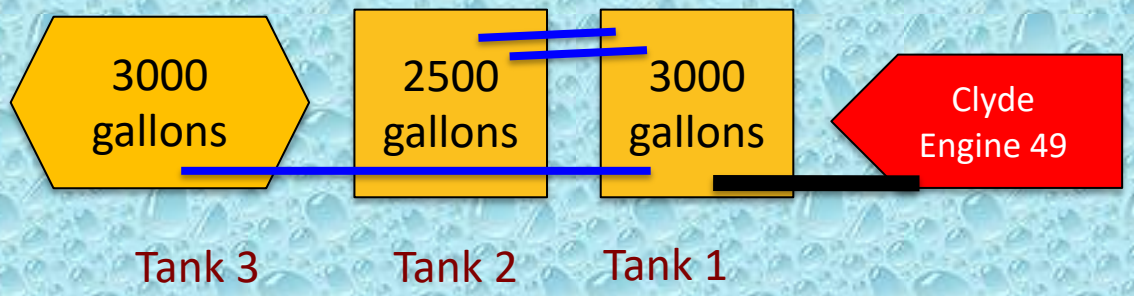
Dump Site Operations

As the flow increased, water transfer operations became critical. Three jet siphon devices were used to support the 1000 gpm flow.

Dump Site Operations

The final layout to support the 1000-gpm flow. An under-performing low level strainer in the primary dump tank was swapped out with a TFT low level strainer and Engine 49 was able to support the entire operation with much less motor work. Engine 49 also deployed a 3-inch suction line.

Dump Site Layout



Suction Hose

Jet Siphon

The Fill Sites

- For this drill – two fill sites were used; both located along the Clyde River.
- The fill sites both provided about a 1.5-mile round trip for the units hauling water.
- The river had ample water volume to support the drill and access was not a problem.
- A 1,000 gpm and a 1,250 gpm pumper were used at the river to support the two tanker loading stations.

Fill Site

While the travel route was only a 1.5-mile round trip, tankers had to negotiate traffic and traffic signals.

Fill Site

Clyde Engine 44 (1,000 gpm) drafted from the river and loaded tankers using twin, 3-inch fill lines.

Fill Site

Clyde Engine 48 drafted from the river and loaded tankers using a single, LDH fill line.

The Results

- The drill was stopped at the 102-minute mark.
- Water flow was interrupted a couple of times.
- An estimated 52,950 gallons of water were flowed during the drill producing an average flow rate of 616 gpm.
- For the last 10-minutes of the drill a flow of 1,000 gpm or greater was supplied to the quint.
- After the drill started, a couple of tankers were lost to a nearby garage fire, so water hauling resources were stretched a bit thin at times.

The Lessons Learned

- At this drill, crews chose to supply tank water to the quint until a dump site could be set up.
- The arrangement worked well but the use of a double-clappered siamese between Engine 49 and Quint 3 would have allowed incoming tankers to supply water directly to the quint until the dump tanks got set up.

The Lessons Learned

- As the flow increased, the 1,250 gpm dump site pumper was challenged to support the fire flow and supply three jet siphons.
- An additional suction line (3-inch) was added and the 6-inch suction strainer was changed over to a TFT low level strainer. Those actions allowed the 1250 gpm pumper to eventually supply 1000 gpm while running three jet siphons transfer devices.

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, not all tankers had the same fill connection which slowed down the rigs some getting filled and back on the road.

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 Clyde-Galen Fire District for sponsoring and to the Clyde Fire Department for hosting the seminar.

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This program was developed by
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