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**Baldwinsville Fire Department  
Baldwinsville, New York**

**Rural Water Supply Operations Seminar  
2-hr Water Supply Drill  
September 27, 2020  
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 Baldwinsville FD Station 1.
- 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 the Baldwinsville area.

# The 2-hour Water Supply Drill

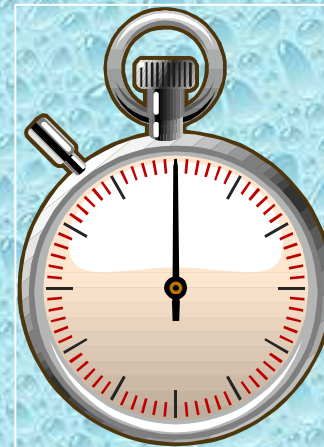
- The tanker shuttle drill was held on September 27<sup>th</sup> at a farm several miles from the fire station.
- The drill attempted to replicate the 2-hour Water Supply Delivery Test used by ISO in their evaluation of fire department water supply capabilities.
- While ISO no longer uses the physical 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
Baldwinsville	Engine 7	1250 gpm	1500 gal	NA
Plainville	Engine 3	1750 gpm	1500 gal	2000 gal
Plainville	Tanker 1	1000 gpm	2300 gal	2100 gal
Lysander	Engine 1	1500 gpm	2000 gal	2000 gal
Lysander	Tanker 1	250 gpm	2000 gal	2100 gal
Mottville	Engine 2	1500 gpm	1500 gal	1500 gal
Jordan	Engine 2	1250 gpm	1000 gal	NA
Jordan	Tanker Pumper 24	1500 gpm	3000 gal	2000 gal
Otisco	Tanker 1	500 gpm	2500 gal	2500 gal
Otisco	Tanker Pumper 1	1500 gpm	1500 gal	1500 gal
Marcellus	Engine 1	1500 gpm	1000 gal	NA
BelgiumCold Springs	Engine 11	1500 gpm	750 gal	NA

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

# The Drill Begins



A 5-inch LDH supply line with a double-clappered siamese was pre-staged to represent a supply line already laid back the farm lane. The “rig” at the other end was ready for water. Plainville Tanker 1 was the 1<sup>st</sup> tanker to arrive and immediately went to work supplying the siamese.



# Dump Site Operations



Water flow was started at 250 gpm at around the 3-minute mark. The plan was to build out two dump sites, each feeding one side of the siamese.

# Dump Site Operations



Jordan Tanker Pumper 24 was the next water hauler to arrive and the crew set up to support the siamese while dump tank operations were being built.



# Dump Site Operations



Mottville Engine 2 got dump tank operations up and running around the 16-minute mark using a 2100-gal dump tank located in front of the pumper.

# Dump Site Operations



Flow was moved to 500 gpm around the 17-minute mark as more tankers from the water supply task force began to arrive.



# Dump Site Operations



Crews began work on setting up the second dump site but the transition never really occurred because a “real” incident occurred that required some the units on the drill to respond.

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# Dump Site Operations



By the 50-minute mark, a second dump tank was up and running and Mottville Engine 2 was drafting from both the front intake and the driver side intake.



# Dump Site Operations



The second dump tank was equipped with a through-the-wall connection which made drafting quite easy.

# Dump Site Operations



These portable numbering posts were used to help identify the dump tanks so that incoming tankers could be directed to dump where the water was most needed. "Tanker 21....dump in Tank 2."



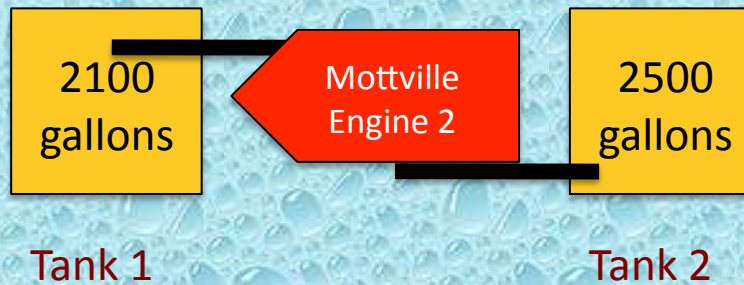
# Dump Site Operations

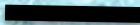
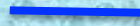


Because of the fire incident that eventually resulted in the drill being stopped early, flow never really got much above 550 gpm due to the reduced number of units hauling water.

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# Dump Site Layout



 Suction Hose  
 Jet Siphon

The 2<sup>nd</sup> dump site never went in service due to the Emergency incident.



# The Fill Sites

- For this drill – two fill sites were used – both at the same farm pond.
- The fill sites both provided about a 4.9-mile round trip for the units hauling water.
- Both sites had ample water volume to support the drill and access was not a problem.
- A 1,250 gpm pumper and a 1,750 gpm pumpers were used at the pond.

# Fill Site Operation



Plainville Engine 3 (1750 gpm) drafts over the berm of the pond and uses LDH to load tankers.



# Fill Site Operation



Baldwinsville Engine 7 (1250 gpm) also drafts from the same pond and also uses LDH to load tankers. Both engines loaded tankers at around a 1000 gpm fill rate.

# The Results

- The drill was stopped at the 77-minute mark due to a fire incident that required the use of most of the apparatus.
- Water flow was never interrupted but twice the supply was dangerously low to running out.
- An estimated 32,700 gallons of water were flowed through the portable monitor during the drill producing an average flow rate of 468 gpm.
- A peak flow of 550 gpm was achieved around the 16-minute mark of the drill.



# The Lessons Learned

- At this drill, crews were instructed to support fire attack operations by supplying the clappered siamese.
- The first arriving tanker was able to offload its water in a nurse tanker mode while crews worked to build out a dump tank operation.
- The second arriving tanker also operated in a nurse tanker mode while the first dump site was completed.

# The Lessons Learned

- Tankers that can only dump of the rear can prove problematic in some operations. At this drill, the one tanker that could only dump off the rear was used only at a specific dump tank and only in a specific position.
- The second dump tank that was used had a through-the-wall fitting which made positioning and drafting very easy to accomplish.



# 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 the Town of Lysander Public Safety Committee for sponsoring and the Baldwinsville Fire Department for hosting this seminar.





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