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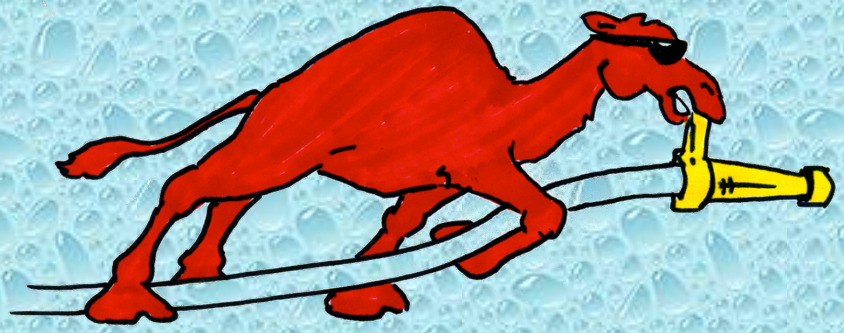


Hartwick Fire Department – Company #1
Hartwick, New York

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
March 24, 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

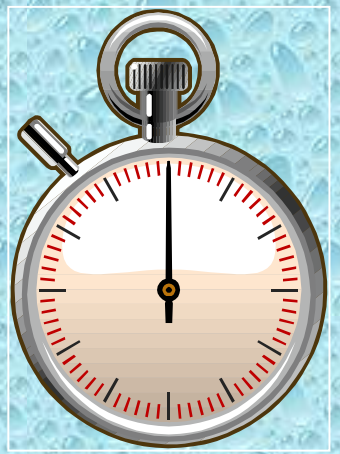
- The 2-day seminar started on Saturday with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the Hartwick Community Center.
- Once the classroom part was done, the seminar continued with several hours of practical work on fill-site and dump site operations.
- The program concluded on Sunday with the 2-hr ISO tanker shuttle exercise and program review.
- Seminar participants were from Hartwick and surrounding communities in Otsego County, New York.
- Instructors for the program were Alan Butsch and Tim Legore.

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on March 24th at the town park in Hartwick, NY.
- 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 six 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 Ostego County.*

Drill Participants

- Hartwick Tanker 821
  - 750 gpm pump with 1800 gal tank
- Hartwick Engine 811
  - 1500 gpm pump with 1000 gal tank

Drill Participants

- Hartwick Engine 812
  - 1000 gpm pump w/ 1000 gal tank
- Wells Bridge Tanker 2312
  - 1,250 gpm pump w/2,100 gal tank

Drill Participants

- West Oneonta Tanker 2721
  - 500 gpm pump w/2,000 gal tank
- Cooperstown Tanker 0221
  - 1,500 gpm pump w/2,500 gal tank

Drill Participants

- Mt. Vision Engine 1411
  - 1250 gpm pump w/1,000 gal tank

- Mt. Vision Tanker 1421
  - no pump w/1,500 gal tank

Drill Participants

- Pindars Corners Tanker 2251
  - 500 gpm pump w/2000 gal tank
- Pindars Corners Engine 2212
  - 1500 gpm pump w/1,250 gal tank

Preparation

Units staged in the parking lot at the Hartwick Community Center. Crews were briefed and units were prepared for dispatch.

The Drill Begins

Hartwick Engine 811 was the first-arriving unit at the school and assumed the role as the attack pumper. The unit laid out 100-feet of 5-inch supply line from the main parking area. The stopwatch was started when the Engine driver applied the air brakes.

Attack Engine Set-up

The crew stretched 100-feet of 3-inch hose to a Hose Monster flow diffuser that served as the means by which all water flow would be measured. The diffuser simulated the use of a portable master stream device.

Dump Site Set-up

Mt. Vision Engine 1411 was the next unit to arrive on the scene and immediately went to work setting up the dump site.

Dump Site Set-up

Hartwick Tanker 821 was the first tanker to arrive and provided a dump tank and additional water – all before the 5:00 minute mark. However, the water was dumped in the secondary tank and was briefly "trapped". Fortunately, the second tanker from Wells Bridge was right behind and dumped its water in the "right" tank.

Water Flow Begins

At the 4:15 -minute mark – (one minute early) – water flow was started at the attack pumper at a rate of 250 gpm.

Dump Site Set-up

Because the two engines at the dumpsite had 2000 gallons of water between them, the IC elected not to use a nurse tanker.

Dump Site Set-up

At the 6:40-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.

Dump Site Set-up

The third dump tank was obtained from the second tanker and crews quickly put it in service.

Command

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

Three Dump Tanks in Use

Around the 10:00 -minute mark, a tanker task force was dispatched bringing more resources.

Dump Site Set-up

Water transfer operations were now underway. Here, the crew elected to use a simple jet siphon instead of the low level strainer. This crew stated based on their previous experience the jet siphon worked better.

Dump Site Set-up

At the 15:00-minute mark, flow was moved to 500 gpm and the dump site became a very busy place.

Low level strainer

A Kochek low-level strainer w/jet siphon was used by the dump site engine. At low levels it doesn't work so well with the plug out of the jet siphon supply inlet. Fortunately both the attack engine and dump site engine had filled their booster tanks - so flow was uninterrupted. This strainer also proved problematic later when flow was increased to 700 gpm.

Dump Site Operations

Crews did a nice job of spacing the tanks so that two tankers could dump at once.

3-Tank Operations

More tankers from the 2nd Tanker Task Force arrive and help keep the sustained flow going. The dump site coordinator decided to try some Nascar style pit flagging to direct in-coming tankers to the appropriate dump tank – seemed to work pretty well and cut down on the radio chatter.

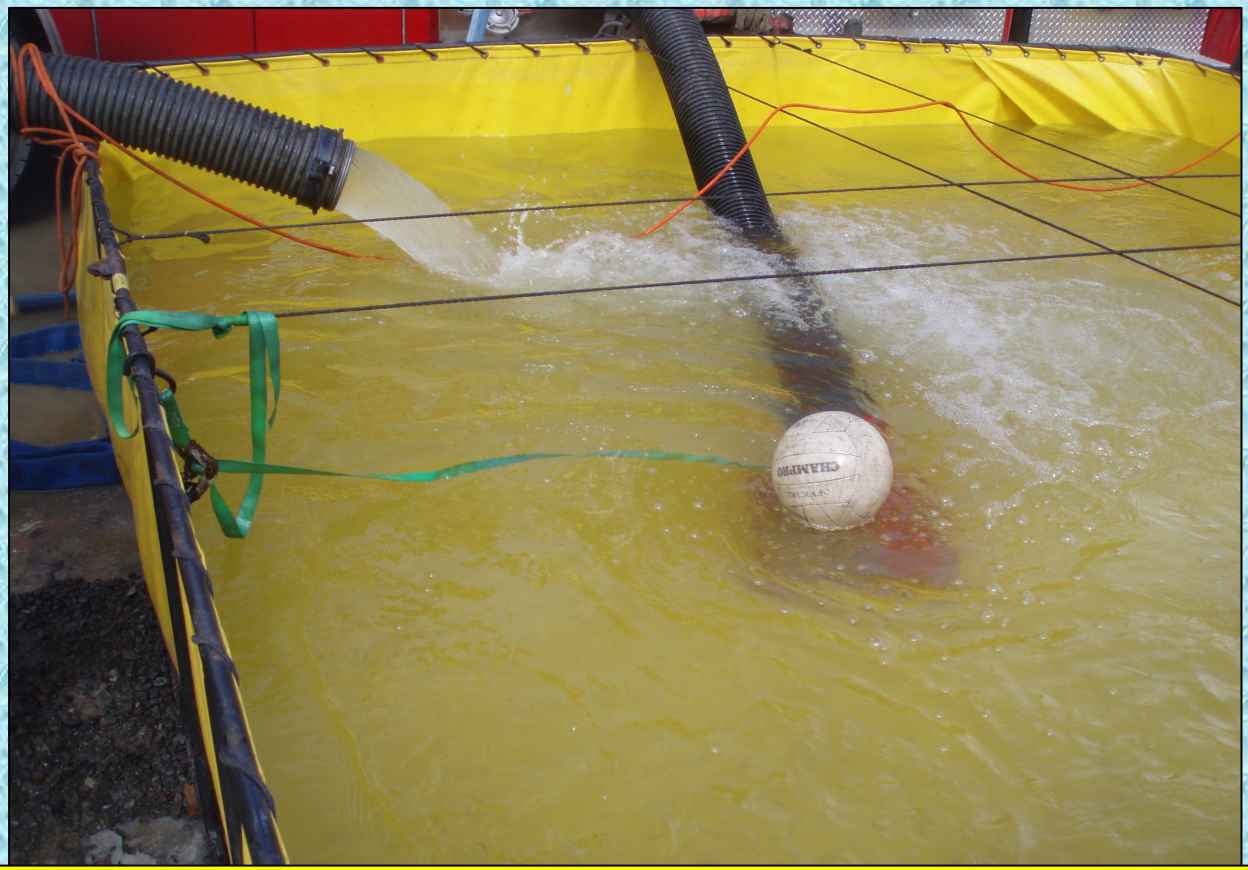
Dump Site Operations

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 Hartwick Tanker 821 leaves their cam lock adapted dump sleeve in the tank for repeated use.

Dump Site Operations

The Engine/Tanker from Cooperstown dumps its 2500 gallons of water. 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



The flow from this 6-inch jet siphon is a good, solid stream of water – which is exactly what is needed.

Water Transfer Operations

The dump site crew used a gated-wye to supply two jet siphons – and later on a third. Doing so let the pump operator concentrate on other operations instead of having to open and close valves for jet siphon ops.

Dump Site Operations

A decision is made around the 55-minute mark to increase flow – but a 4th tank would be needed to do so. This was quickly set up. Crews spanned the third tank with two hard sleeves and a ladder so that water only had to be moved once to the primary tank.

Dump Site Operations

At the 64-minute mark, water flow was moved to 700 gpm and maintained there for the duration of the drill.

4-Tank Operation

It became quickly apparent that the dump site engine could not keep up with supplying three jet siphons and a 700 gpm flow. The crew worked to correct the problem while the operators juggled siphons.

Good traffic control

Tankers, as well as normal Sunday afternoon traffic, were traveling all ways through a 4 way intersection – fire police were essential to keeping this moving – and safe!

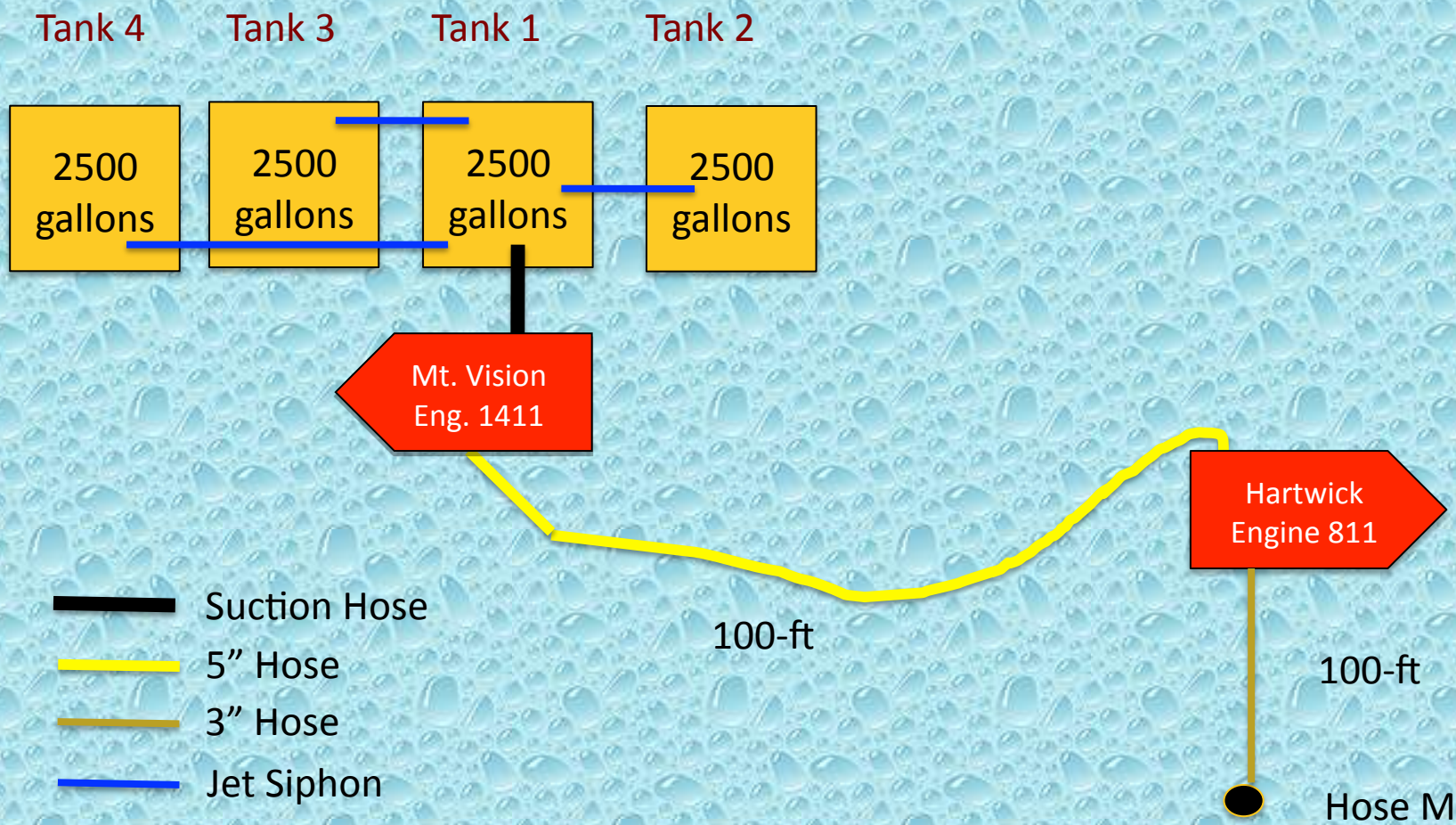
Its All About the Teamwork!

This crew member was kept busy shoveling some gravel to provide much needed traction at the icy dump site.

Dump Site Operations

With just a few seconds remaining, all operations were going quite smooth.

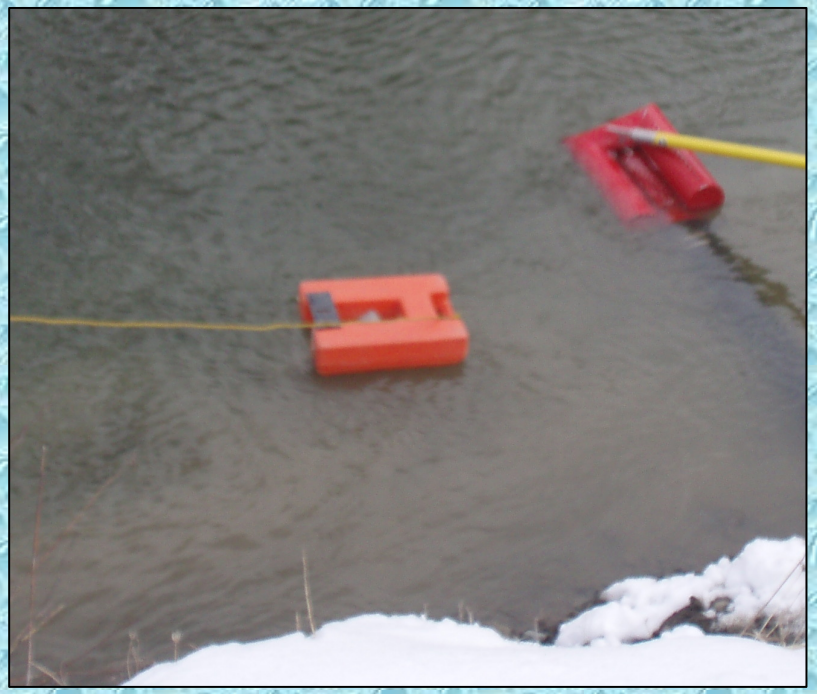
Dump Site Layout



The Fill Sites

- For this drill – two fill sites were used.
- The first fill site was just north of town on Route 205 at a dry hydrant fed by Otego Creek. The crews elected not to use the dry hydrant.
- The creek provided ample water volume to support the drill and access was not a problem.
- The second fill site was south of town at the Rod & Gun club. There, crews used a dry hydrant to access a frozen pond.

North fill site



The crew from Pindars Corners worked very quickly and had this fill site operational in less than 10-minutes. This engine has a 1500 gpm pump but the crew anticipated a lower flow due to the use of the front intake and a 12' lift. With the use of the second "pony" suction this engine was able to fill at close to 1000 gpm.

Rod and Gun Club

The crew from Hartwick Engine 812 struggled to set up quickly due to only having two personnel. However, the pump operator was able to achieve a flow of just over 1000 gpm with a 1000 gpm pump and a 5" sleeve – he went "old school" and used his booster tank to supplement his flow during tanker fills. Of course, the three foot of lift didn't hurt either.

Rod & Gun Club Fill Site

This crew got tired of dragging hoses around and marked the fill spot with a cone. Drivers knew to put their tail board at the cone to speed up making connections. Short, twin 2.5” lines kept the flows up.

The Results

- The drill was stopped at the 2:00-hour mark.
- Water flow was never interrupted!
- An estimated 67,115 gallons of water were flowed through the attack engine during the drill producing an average flow rate of 579 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 use of the Mt. Vision pumper at the dump site made a big difference in being able to support the higher flows later in the drill.
- The school layout provided ample space for this large operation and traffic flow was not a problem.

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.
- The crews learned to work through problems like dumping in the wrong tank and the use of a flow limiting low level strainer.

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 Hartwick Fire Department Co. 1 for sponsoring and hosting this seminar.

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For more information contact us at
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