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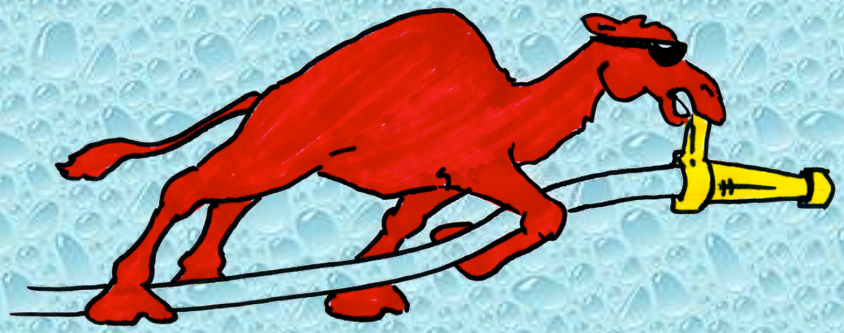


# Wakulla County Fire Rescue
# Wakulla County, Florida

## Rural Water Supply Operations Seminar
## 2-hr Water Supply Drill
## April 6, 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 County units and personnel to work together in a real-life training situation.

# The Seminar

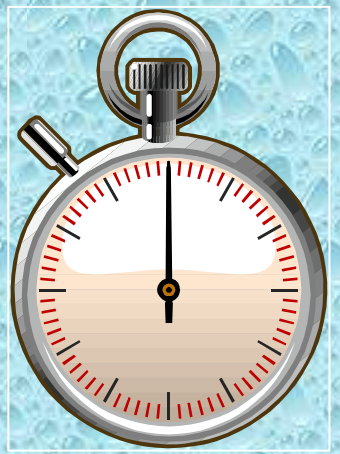
- The 2-day seminar started with a 4-hour classroom session to review the basics of rural water supply operations.
- The review session was held at the Wakulla County Community Center.
- Once the classroom part was over, the seminar continued with 8 hours of practical work on fill-site and dump site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

# The 2-hour Water Supply Drill

- The tanker shuttle drill was held on April 6th at the Wakulla County Fire Rescue Training 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** |
| Wakulla | Engine 3 | 1250 gpm | 1000 gal | NA |
| Wakulla | Engine 6 | 1250 gpm | 1000 gal | NA |
| Wakulla | Engine 11 | 1250 gpm | 1000 gal | NA |
| Wakulla | Reserve Engine 035 | 1250 gpm | 1000 gal | NA |
| Wakulla | Tanker 2 | 500 gpm | 3000 gal | 3500 gal |
| Wakulla | Tanker 3 | 500 gpm | 3000 gal | 3500 gal |
| Wakulla | Tanker 4 | 500 gpm | 1500 gal | 2000 gal |
| Wakulla | Tanker 11 | 500 gpm | 1800 gal | 2100 gal |
| Wakulla | Pumper/Tanker 9 | 1000 gpm | 3000 gal | 3500 gal |

- *The participants for the drill were from Wakulla County and a few surrounding jurisdictions. The water hauling apparatus was representative of the type of water supply support that would respond to a structure fire in Wakulla County.*

# The Drill Begins


Engine 3 arrives on the scene and lays a 300-ft supply line of 5-inch LDH. The timer started once the engine came to a stop.

# Dump Site Operations

Engine 11 arrives on location and prepares to supply the clappered siamese at the end of Engine 3's supply line. A nurse tanker operation will get the drill started but Engine 3 will eventually transition to a dump tank operation.

# Dump Site Operations


The first tanker arrives on the scene and starts supplying the siamese allowing Engine 11 to transition to dump site operations.

# Dump Site Operations

Water flow was started at 250 gpm at the 5-minute mark using a ground monitor supplied by Engine 3….the attack pumper.

# Dump Site Operations


Crews work to build out a dump tank operation while nurse tanker operations continue. The first dump tank deployed was a 3500-gal tank from the first arriving tanker.

# Dump Site Operations

Flow was moved to 500 gpm at the 20-minute mark and two dump tanks were now in operation.

# Dump Site Operations

The travel route for tankers was changed so that each tanker could dump water off the driver side of the rig.

# Dump Site Operations


Jet siphon control was moved to a gated wye thus relieving the pump operator of having to manipulate water transfer devices.

# Dump Site Operations


By the 60-minute mark, three dump tanks were now in use and flow was about to be increased.

# Dump Site Operations

With no top-performing suction strainer available, Engine 11 chose a barrel strainer so that maximum capacity could be achieved using a single-suction inlet.

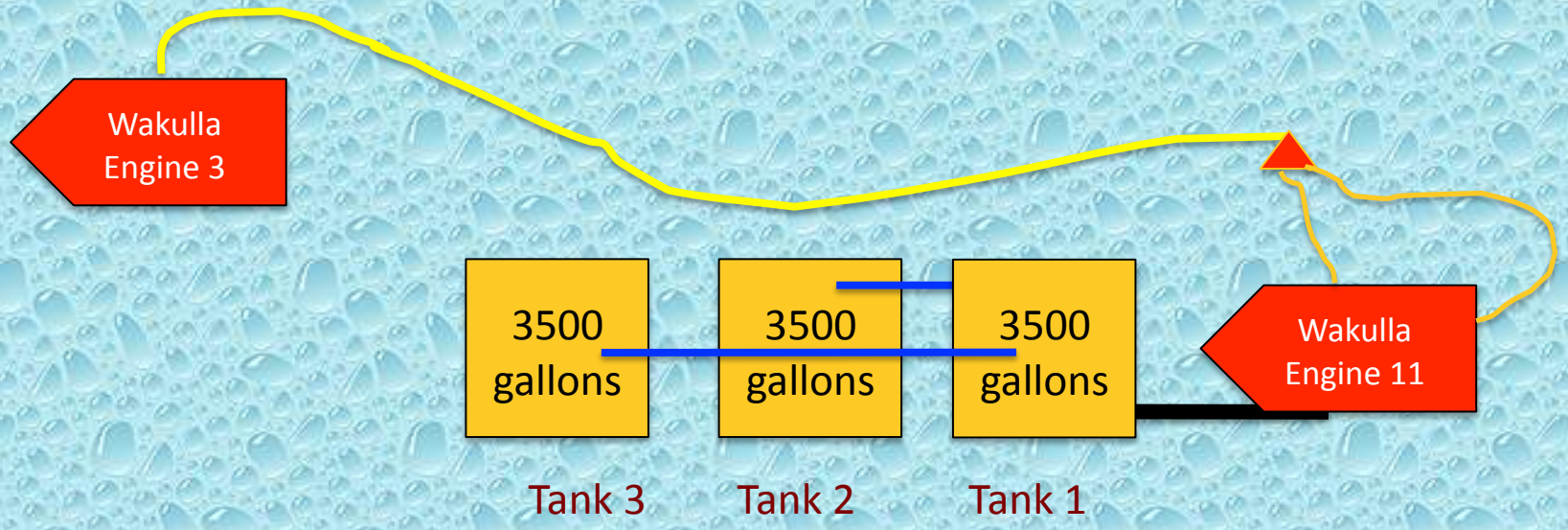
# Dump Site Operations

At the 105-minute mark flow was moved to 1250 gpm using Engine 3's pre-piped deck gun.

# Dump Site Operations

Three dump tanks and two jet siphons were eventually used to support the 1250 gpm operation.

# Dump Site Layout




Suction Hose

Jet Siphon

# The Fill Sites

- For this drill – two fill sites were used; both were fire hydrants.
- The fill sites both provided about a 2.0-mile round trip for the units hauling water.
- The hydrants had ample water volume to support the drill and access was not a problem.
- A 1250 gpm pumper was used at each hydrant to load tankers.

# Hydrant Fill Site #1


Water was taken directly from the fire hydrant into the fill site pumper (1250 gpm) and from there a tanker fill station was built out by the time the first empty tanker arrived on location.

# Hydrant Fill Site #1

The fill site pumper did not have an LDH discharge so two smaller lines were siamesed into a 5-inch LDH fill line so that tankers could be loaded at a 1000 gpm rate.

# Hydrant Fill Site #2


The second fill site used a similar set up arrangement to load tankers at the target 1000 gpm fill rate.

# The Results

- The drill was stopped at the 2:00-hour mark.
- Water flow was only interrupted once for about 90 seconds around the 21-minute mark in the drill.
- An estimated 75,000 gallons of water were flowed through the attack pumper during the drill producing an average flow rate of 652 gpm.
- A peak flow of 1,250 gpm was achieved during the last 15-minutes of the drill.

# The Lessons Learned

- At this drill, crews chose to use a nurse tanker operation from the very beginning.
- The nurse tanker operation provided time to get the first dump tank set up without having to worry about running out of water in a minute or two.
- The use of the clappered siamese made the transition to dump tank operations very easy.

# The Lessons Learned

- As the flow increased, water transfer operations became a problem so a 500 gpm portable pump was used to supply one of the jet siphon devices. This allowed the dump site pumper to increase its output to the attack pumper.
- The dump site pumper resorted to using a barrel strainer in order to achieve maximum flow. No top-performing low level strainer was available.
- The dump site crew used a single-lane dump tank configuration which was one of the primary goals of the drill.

# 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 of the tankers had the same fill connection which slowed down some of the rigs getting filled and back on the road to the dump site.

# 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 standardize practices and procedures – and the importance of apparatus interoperability.
- Many thanks to Wakulla County Fire Rescue for sponsoring and hosting the seminar.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