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High Level Fire Department
High Level, Alberta

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
May 8, 2017
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

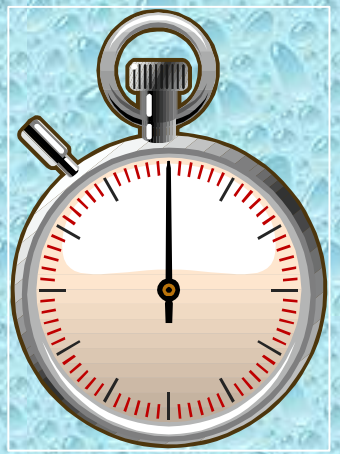
- The 2-day seminar started with a classroom session to review the basics of rural water supply operations.
- The review session was held at the High Level fire station.
- Once the classroom part was done, the seminar continued with 8 hours of practical work on fill-site and dump site operations.
- The program concluded with the 2-hr FUS tanker shuttle exercise and program review.
- Seminar participants were from the High Level area plus a Fire Chief from the Northwest Territories.

The 2-hour Water Supply Drill

- The tanker shuttle drill was held on May 8th in High Level.
- The drill attempted to practice the 2-hour Superior Tanker Shuttle Service -Water Supply Delivery Test used by FUS in their evaluation of fire department water supply capabilities.
- While everyone in the fire service may not agree on FUS 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 FUS Test

- The FUS 2-hour Water Supply Delivery Test for a Superior Tanker Shuttle Accreditation has two critical time segments:
  - 0:00 to 5:00 minutes
  - 5:01 to 120:00 minutes



FUS 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.

FUS Test *5:01 to 120:00 minutes*

- For dwelling target hazards, at the 5-minute mark, a flow of at least 1,000 lpm must be started - and it must be sustained for the remainder of the drill – which is 120 minutes.
- For commercial property target hazards, a flow of at least 2,000 lpm must be started and sustained for a total of 60 minutes.

Water Supply Drill Participants

- *The participants for the drill were from several different fire departments in the High Level region (plus a few folks from much farther away), and the water hauling apparatus was representative of the type of water supply support that would respond to a structure fire in the High Level area.*

Drill Participants

- High Level Engine 1
  - 5000 lpm pump w/2000L tank
- High Level Engine 2
  - 6000 lpm pump w/3800L tank

Drill Participants

- High Level Tender 1
  - 2,000 lpm pump w/12,000L tank
- Beaver First Nation Tender 1
  - 2,000 lpm pump w/6,000 L tank

The Drill Begins

High Level Engine 2 and Tender 1 were the first units to arrive on the scene. The timer was started when the engine came to a stop. The crew then had 5-minutes before water flow had to be started at 1,000 lpm (≅250 gpm).

Dump Site Operations

The first dump tank was set up very quickly and the engine was ready to draft within 3-minutes of arrival. However, due to a mechanical issue with the front suction, a draft could not be obtained.

Water Flow Started

A 1,000 lpm water flow was started at the 6-minute mark using a TFT Blitzfire fed by 65mm line. The flow was started using Engine 2's tank water.

Dump Site Operations

Tender 1 dumps its water into the first dump before realizing that Engine 2's front intake will not open.

Dump Site Operations

Beaver First Nation Tender 1 arrives and moves immediately to a nurse tender operation while the crews work to rearrange the drafting operation at the dump tank.

Dump Site Operations

It was pure luck that this dump tank drain got clamped off by the tank frame when the tank was set on the ground. Otherwise, the untied drain would have caused water loss.

Dump Site Operations

At the 16-minute mark, drafting operations were back underway at the dump site. The crews set up a second dump tank (from High Level) and were able to get water flow restarted using that dump tank and the nurse tender to help run the jet siphon.

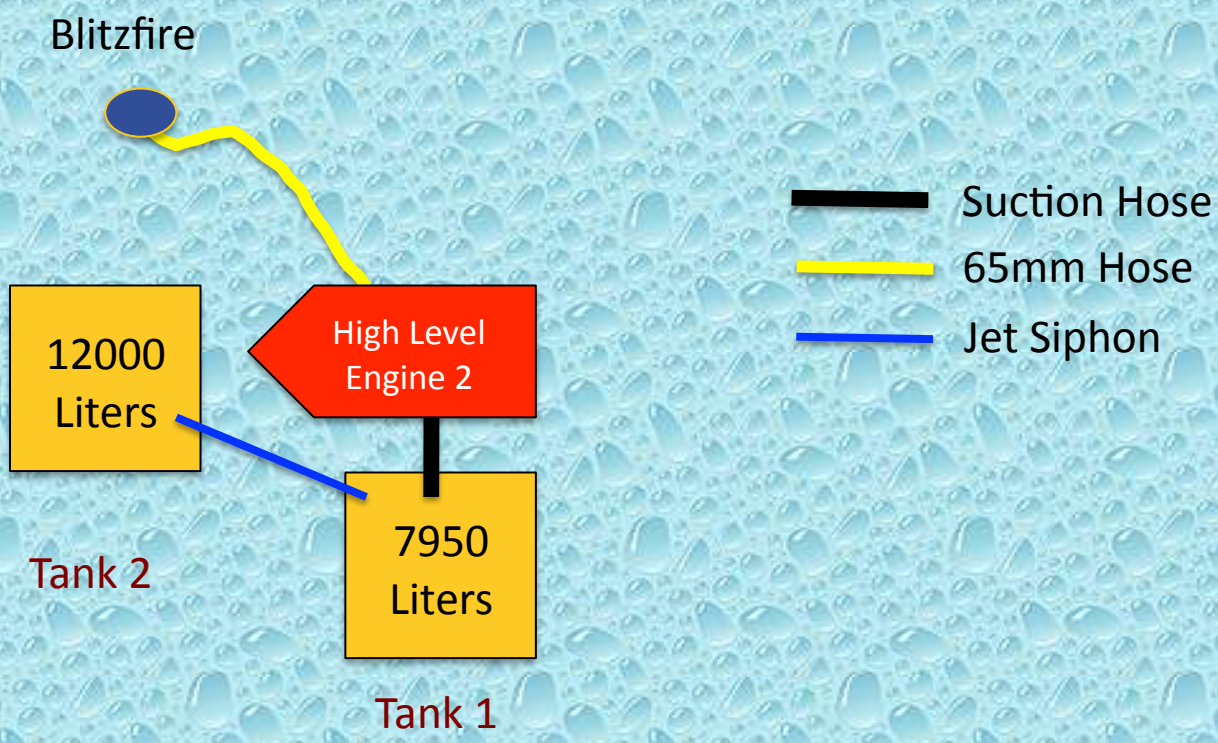
Dump Site Operations

Water from the Beaver First Nation tender was used to transfer the initial load of water from the High Level tender that was dumped but could not be used. The nurse tender supplied the draft engine that then ran the jet siphon.

Dump Site Operations

With the dump tank drafting situation fixed, water flow was never again interrupted. Flow peaked at 1200 lpm for the last 30-minutes of the drill.

Dump Site Layout



The Fill Site

- For this drill – only one fill site was used.
- The fill site utilized a dugout (pond) at a landfill facility and provided about a 5.8 km roundtrip for rigs hauling water.
- The dugout provided ample water volume to support the drill and access was gained using two portable pumps using an “open” relay concept.
- A single, 5000 LPM pumper was then used to load tenders.

Fill Site Operations

A large dugout was the water source for the drill. The dugout was deep and full of clean water. The problem was access. Vehicles could not access the dugout due to very soft soil conditions.

Fill Site Operations

The fill site crew used two, portable trash-style pumps to feed a 100mm supply line back to the fill site area. The portable pumps are part of High Level FD's normal protocol for remote water access and the crew had them up and running in little time.

Fill Site Operations

The portable pumps fed a dump tank and then Engine 1 drafted and loaded tenders at 4,000 lpm.

The Results

- The drill was stopped at the 120-minute mark due to time constraints.
- Water flow was interrupted a couple of times early in the drill – due to the problems with the dump site pumper's front intake.
- An estimated 113,000 liters of water were flowed through the attack engine during the drill producing an average flow rate of 1,056 lpm.

The Lessons Learned

- At this drill, the dump site pumper had a mechanical issue and crews had to work quick to switch over operations to a side suction inlet.
- There is much value to having a pump on a tender; the Beaver First Nation tender was able to operate as a nurse tender when the dump site pumper had an intake malfunction.

The Lessons Learned

- Pumpers expected to draft should carry more than 20 feet of suction hose. Added suction hose can prove useful at both dump and fill site locations.
- 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, all tenders did not have the same type or size of fill connection – which resulted in the need for adaptors at the fill sites as well.

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 tender.
- High Level is located in a very remote area of Alberta, with help coming from far away. To be able to sustain a 1000 lpm flow over almost a 6 km route for more than an hour using just two tenders is quite a fete!

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 High Level FD for sponsoring and hosting this seminar.

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This program was developed by
GBW Associates, LLC

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