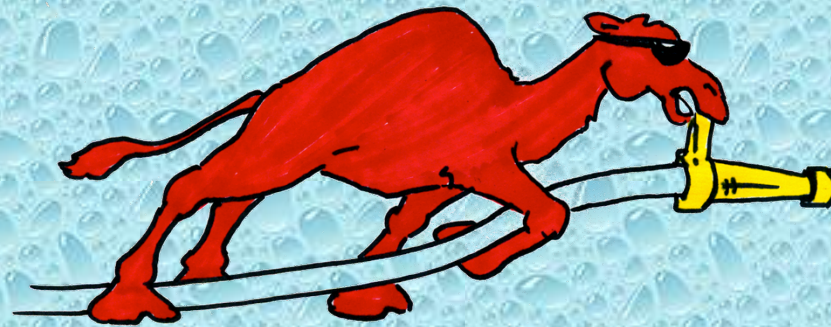


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Peace River FD & Smokey River FD
Alberta, Canada

Rural Water Supply Operations Seminar
2-hr Water Supply Drill
April 27, 2014
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 Saw Ridge Conference Center in Peace River.
- 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 a water supply drill and program review.
- Seminar participants were from the northern Alberta area.

The 2-hour Water Supply Drill

- The water supply drill was held on April 27th at the Peace View Golf Course on the outskirts of Peace River.
- The drill attempted to replicate the 2-hour Water Supply Delivery Test used by Risk Management Services' Fire Underwriters Survey in the evaluation of fire department water supply capabilities.
- While everyone in the fire service may not agree on FUS'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.



Risk Management Services' *Fire Underwriters Survey* is the Canadian version of ISO's Public Protection Classification Program – there are many similarities.

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 17 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 northern Alberta.*

Drill Participants

- Peace River Engine 8
 - 1,750 gpm pump
w/1,000 gal tank

- Weberville Engine 2
 - 1,500 gpm pump
w/1,000 gal tank



Drill Participants

- Warrensville Tender 1
 - 750 gpm pump
w/1,500 gal tank
- Weberville Tender 4
 - 750 gpm pump
w/1,500 gal tank



Drill Participants

- Dixonville Tender 3
 - 500 gpm pump
w/2,000 gal tank
- Northern Sunrise Co
Tender 6
 - 500 gpm pump
w/1,750 gal tank



Drill Participants

- St Isadore/Three Creeks
 - 3,500 gal tank
w/300 gpm pump
- Weberville Tender 1
 - 3,500 gal tank



The Drill Begins



Peace River Engine 8 arrived on the scene and the timer was started when the pumper came to a stop. The crew went to work immediately setting up for a dump tank operation as well as stretching an attack line.

Dump Site Operations



A pre-connected TFT Blitzfire was the line deployed to simulate fire attack operations. The “spring thaw” produced quite a mud problem.

Dump Site Operations



At the 13:16 minute mark, water flow was started at 250 gpm – a bit late because of some radio communications issues with the units in staging.

Dump Site Operations



Once tenders began arriving, the dump site operation was able to support the fire flow without interruption. Northern Sunrise Tender 6 is seen dumping its 1750 gallons in this photo.

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Dump Site Operations



Two vacuum tenders were part of the shuttle and proved to be very critical to the success of the operation because of their ability to self-load at the lone fill site.

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Dump Site Operations



One of the issues that arose was the ability to get more water into the pump on Engine 8. The crew decided to add additional suction lines – starting with a second 6-inch suction from the officer's side of the pumper.

Dump Site Operations



Additional suction had to be gathered from other units operating in the shuttle in order to complete this operation.

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Dump Site Operations



Eventually, the flow was moved to 750 gpm at the 38-minute mark using three suction lines – two, 6-inch suction lines and one 3-inch line (green).

Dump Site Operations



The three suction inlets allowed for maximum flow into the pump given the suction strainer selection available.

Dump Site Operations



A third dump tank was placed but never put into operation. A 4,000-gallon dump tank was the first tank down – followed by a 2,100-gallon tank and that combination of tanks was adequate to support the 750 gpm flow.

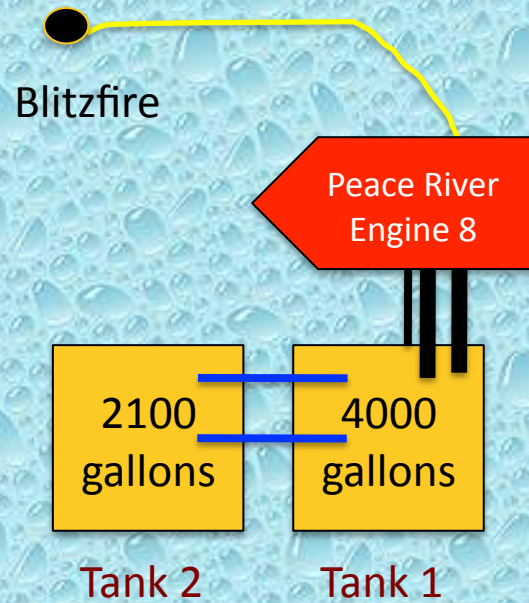
Water Transfer Operations

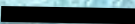
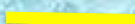



Dual jet siphons were used to transfer water from the 2,100-gallon tank into the 4,000-gallon tank. Engine 8's 1,750 gpm pump had plenty of capacity to support the 750 gpm flow and run the two jet siphons.

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Dump Site Layout



-  Suction Hose
-  3" Hose
-  Jet Siphon

The Fill Sites

- For this drill – only one fill site was used. A second fill site was planned but was inaccessible due to mud.
- The lone fill site was located at a pond and provided a 6.8 km round trip for units hauling water.
- The pond was situated such that a pumper could not access it – therefore, three portable pumps were needed in order to use the pond water.
- The portable pumps supplied water to two, 1,500 gallon dump tanks from which a 1,500 gpm pumper drafted and filled tenders.
- The vacuum tenders self-loaded at the fill site – loading directly from one of the dump tanks.

Fill Site Operations



Three 250 gpm portable pumps were used to supply water back to the fill site via 2-1/2" hose. The pumps were able to meet the flow demand of the shuttle operation.

Fill Site Operations



Weberville Engine 2 (1,500 gpm) drafted from the end dump tank and loaded tenders. The crew on the right controlled the flow of the portable pumps into the dump tanks in order to keep the tanks full for the next arriving tender.

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Fill Site Operations



The fill site crew really did a great job of loading the tenders in as short a time frame possible. The 750 gpm tanker shuttle drill was supported by three portable pumps – which is pretty amazing!

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Fill Site Operations



The second fill site never made it into operation because mud prohibited the pumper from getting close enough to draft from the ice covered pond.

The Results

- The drill was stopped at the 78-minute mark simply because of time constraints.
- Although flow was a bit late getting started, it was never interrupted!
- An estimated 32,567 gallons of water were flowed through the attack engine during the drill producing an average flow rate of 540 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 delay in getting the water flow started was unrelated to the crews – it was the result of a radio coverage issue.
- The mud at the dump site really created a challenge but crews did a nice job of overcoming the problems. During this time of year, mud is a huge issue and taking a pumper or tender off of the hard road is a huge risk.

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, the two vacuum tenders were able to self-load with little help from fill site crews. The use of these two vacuum tenders allowed crews to focus on keeping the dump tanks full and not worry about supplying the tenders.

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.
- Portable pumps are useful devices for accessing water that a pumper cannot. At this drill, three 250 gpm portable pumps were able to support a 750 gpm shuttle operation – very impressive!

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 Peace River and Smokey River Fire Departments for sponsoring and hosting this seminar.



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