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Big Water Drill

Layin' Out and Moving It!
1-Mile Relay of 5-inch LDH
Carroll County, Maryland
September 2003

5-inch LDH Relay

- Late in September 2003, units from four Maryland Counties participated in the first “Southwest Relay”, hosted by the Mount Airy Volunteer Fire Company which is located in southwestern Carroll County.
- Talk of a “mile relay” utilizing 5” LDH was “cheap” around the area as the idea had been floating around for over a year.
- So, the Mt. Airy and Winfield fire departments put their “money where their mouths” were and began organizing the drill, soliciting surrounding departments for personnel and apparatus to participate.

5-inch LDH Relay

- Being the first drill of this type held in Carroll County, ideas about what types of obstacles that would be encountered began filtering through the minds of the organizers.
- One could only imagine what problems could arise when units from four counties would merge together to complete and make operational a 1-mile LDH relay.
- Does your department have the needed equipment for the interoperability with other departments in this type of water supply operation?

5-inch LDH Relay

- The proverbial “For the loss of a nail, the shoe was lost.....” can also be applied to a fire ground operation....”for the lack of a \$50.00 adaptor; the building was a total loss!”
- In order to make the drill as realistic as possible, the personnel on the various units were asked not to disclose what adaptors and other related equipment they carried.
- This would let the problems arise, if any, so that they could be addressed during the drill - thus forcing the personnel to interact to overcome any difficulties.

5-inch LDH Relay

- The goal for the drill was to have all the hose laid out and water flowing from the quint's waterway in 20 minutes or less.
- A total of 5,900 feet of 5-inch hose was laid out.
- Unfortunately, the goal was not met. It was very close, but no cigar – as the saying goes!
- Remarkably, there were no adaptor or connection related problems encountered.
- However, there was a defect found in the dry hydrant at the draft site – a crack in the PVC piping proved troublesome to the drafting pumper.
- Fortunately the driver and crew of the rig were able to overcome the problem and had water moving in just under 11-minutes.

5-inch LDH Relay

- One interesting part of the drill involved radio communications between the units – it was minimal to say the least.
- The incident commander communicated with each unit as to their readiness and when to increase pressures, which in turn, eliminated the all too familiar “give me 10 more pounds” or “cut back 5 pounds!”

5-inch LDH Relay

- Overall, the drill was a success. It provided valuable information to everyone in attendance concerning:
 - the time needed to set-up a 1-mile relay and make it operational;
 - the practicality of when or when not to use a hose relay; and,
 - the number of units and personnel needed in the relay itself.

5-inch LDH Relay

- Units participating in the relay were:
 - Engine 12 (Mount Airy VFC – Carroll Co.)
 - Engine 141 (Winfield VFD – Carroll Co.)
 - Engine 32 (Westminster VFD – Carroll Co.)
 - Special Unit 6 (Pleasant Valley VFD- Carroll)
 - Quint 11 (Walkersville VFD – Frederick Co.)
 - Rescue Engine 703 (Rockville VFD – Montgomery Co.)

Supply Pumper



Rockville VFD Rescue Engine 703 drafts from a pond to support the relay. The dry hydrant seen in the lower left of the photo was defective.

Supply Pumper



RE703 uses its 2000 gpm capability to take suction through two suctions and pump through 900-ft of 5-inch hose to Westminster E32

Hose Layout



900 feet of 5-inch LDH is laid between the supply pumper and the first relay pumper.

1st Relay Pumper



Westminster Engine 32 operates as the first relay pumper and moves the water along through 1,500 feet of 5-inch LDH to Pleasant Valley VFC SU6

2nd Relay Pumper



Special Unit 6 (1,500 gpm) operates as the second relay pumper. It takes in water from a 1,500 ft lay of 5-inch and then pumps it to Winfield VFD E141 via 2,000 ft of 5-inch hose.

2,000 feet of 5-inch



2,000 feet is a long way to move water through hose. Fortunately, 5-inch hose makes an excellent conduit – almost an above water main.

3rd Relay Pumper



Winfield Engine 141 (1,500 gpm) receives water through 2,000 ft of 5-inch and pumps it out through 1,500 ft of 5-inch to Mt Airy VFC E12

A Little Exhaust Heat



Exhaust heat from E141 proved a little problematic for the pavement and hose – both had to be shielded.

4th Relay Pumper



Mt Airy Engine 12 (1,250 gpm) is the final relay pumper. It is supporting Walkersville VFD Quint 11 through 100 ft of 5-inch LDH.

The Quint



Walkersville Quint 11 (1,500 gpm) serves as the attack engine in this drill and is supplied by Mt Airy E12 through 100-ft of 5-inch hose.

The Results

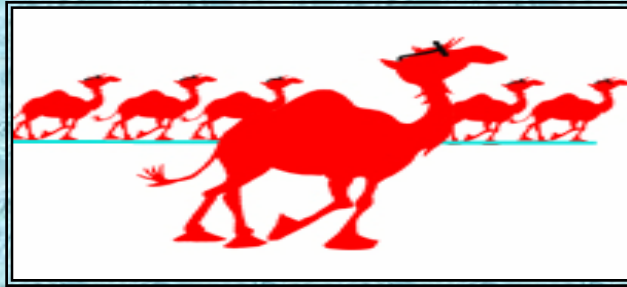
- Twenty-one minutes elapsed from the time the first engine arrived at the draft site until water was flowing out of the tip of Quint 11's monitor nozzle.
- With every pumper discharging at 100 psi discharge pressure, a flow of 1,025 gpm was obtained at the Quint.

The Results

- With every pumping discharging at 150 psi discharge pressure, a flow of 1,250 gpm was obtained at the Quint.
- With every pumper discharging at 185 psi discharge pressure – which is the working pressure of the 5-inch hose – a flow of 1,500 gpm was obtained at the Quint.

Thanks

- Many thanks to everyone who helped make this drill a success!



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