



Informational Bulletin

POST INCIDENT ANALYSIS –OVERTURNED TANKER

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On Friday, February 8, 2019, at 1335, the Fauquier County Emergency Communications Center (ECC) received a 911 call that a truck had overturned carrying propane. The truck was traveling south bound on Leeds Manor Road, north of Orlean, when it left the right side of the road, hit a tree and overturned.

RESPONSE

ECC dispatched a Hazardous Materials response which consisted of the following:

Company 1103

Medic 1103

Company 1111

Battalion 1102

Battalion 1101

The following units responded:

Engine 1105

Shock Trauma 1104

Tanker 1103

Hazmat 1103

Wagon 1111

Battalion 1101

Tanker 1111

Battalion 1102

The following additional units were added to the event and responded:

Battalion 619

VA State Hazmat Officer (HMO)

Hazmat 619

Utility 1110

Hazmat Support 619

Utility 1101

Truck 616

WEATHER

	Temp	Heat Index	Dew Point	Humidity	Pres.	Vis.	Wind Dir	Wind Speed	Precip.	Conditions
335 PM	59 °F	N/A	16 °F	19%	1020 Mb	10.0 mi	W	14 mph Gusting to 21	N/A	Scattered Clouds

INITIAL ACTIONS

Once the original dispatch was completed, ECC advised that the truck had overturned and was carrying a large amount of propane and was possibly leaking liquid propane from the back of the tank.

While responding to the incident Battalion 1101 requested that communications contact the State EOC and the State Hazmat officer, obtain a weather report for the area, and call the driver back and make sure that they had his/her company representative enroute to the scene. Battalion 1101 (with the assistance of a communications ride along for the day) gave isolation distances to the responding units.

Wagon 1111 arrived on the scene to find a 3000 gallon propane truck on its side facing south bound on Leeds Manor Road. Wagon 1111 personnel (crew of 2+1), were able to talk with the driver and they advised that he was denying injury and did not require treatment. They also advised that the truck did have an active liquid leak from the piping at the rear of the tank. It was noted that the driver had just recently filled the truck and that he was carrying a full load of propane. Wagon 1111 (Technician) established command until the arrival of Battalion 1101. At this time Battalion 1101 requested a Hazmat response from Loudoun County. Battalion 1101 also requested that Engine 1105 to come in from the north side of Leeds Manor Road and close the road on that side.

Battalion 1101 arrived (South side of the incident with Wagon 1111) and after a face to face with the Technician riding officer on Wagon 1111 assumed Leeds Manor Road command. Command requested that all units operating on the scene begin air monitoring. Due to the wind conditions, Wagon 1111 was moved back an addition 500 feet. At this time Command requested an additional tanker to support the Wagon 1111. Command divided the incident into two Divisions. Division 1 (southern division) consisted of Wagon 1111, Tanker 1111, and Shock Trauma 1104. Division 2 (northern division) was Engine 1105, and Tanker 1103. Protection hose lines were pulled from both divisions and charged until the arrival of Hazmat 619. Hazmat 1103 was placed in service and returned to station due to the fact that it was not equipped for this type of incident. VDOT was requested to shut down Leeds Manor Road just north of Keyser Road to the south and Washwright Road to the north side.

Battalion 1102 arrived and met with command. His services were not needed on the scene as Battalion 603 was enroute but, Battalion 1101 and 1102 formulated a staffing plan for coverage. Battalion 1102 became the liaison to DFREM Administration and started working on a backfill and staffing plan. Once Battalion 603 arrived on the scene Battalion 1102 left the scene.

Once Hazmat 619 and Battalion 603 arrived on the scene, Command assigned them to the Hazmat Group. We discussed and established an updated Incident Action Plan. The first priority was to stop the leak of liquid propane that was leaking out of the back the truck at an estimated rate of 1 gallon per minute. The second priority was to put in place defensive master streams in case of fire around the container. This was completed prior to the arrival of Hazmat 619. The third priority was to develop a plan to return all systems to normal operations. This would involve removal of the product and the wreckage in a safe manner.

Hazmat 619 began monitoring weather and evacuation zones. Hatmat 619 was also tasked with completing a RECON of the vessel and advised that there appeared to be a small leak from the rear piping as indicated by Wagon 1111 but the container appeared to be in good shape. They were also receiving “no readings” from their Area Raes monitoring equipment.

While all of this was being completed, Command was in contact with the Virginia Department of Emergency Management’s Hazardous Materials Officer (HMO) to discuss the strategy that was being developed. The HMO advised he was enroute from Harrisonburg. Until his arrival, a Virginia EOC representative was on scene acting on the behalf of the Commonwealth. Command was in contact with the responsible party (RP) ensuring that the bill of lading was correct and that the truck was carrying just under 3000 gallons of liquid propane (DOT 1075). He also discussed how and what the cleanup would entail. The company representative (RP) was on scene within 45 minutes of the original incident.

INCIDENT ACTION PLAN

The company representatives arrived on scene as well as a private towing and recovery company and began working on the recovery plan. It was decided that the following would need to happen:

- The truck would need to be offloaded
- Some of the vapor would need to be flared before transferring the load
- The trailer would need to be up righted in order to pump off the liquid
- The transfer would take about 4 hours
- The damaged truck would be towed to the company’s Warrenton office

Approximately 30 minutes into the plan, it was realized that the flaring was not drafting the liquid propane through the piping as anticipated. Hazmat 619 and the HMO decided that due to the condition of the tank it would be acceptable to up right the tank then complete the off load. The truck was up righted and offloading began shortly thereafter. The recovery company originally placed in service due to the time it was going to take to flare off the excess propane was called back.

Once the recovery company up righted the truck without incident the transfer was started under the direction of the HMO, RP (company representative) and Hazmat Group. This proceeded without incident.

Once the transfer was 80% complete a decision was made to de-escalate the fire and rescue resources on scene. The following units remained on scene:

- Engine 1105
- Tanker 1103
- Medic 1114
- Wagon 1111
- Tanker 1111

The product was offloaded into two empty small capacity tanker trucks that were brought to the scene for this purpose once the damaged truck was righted.

The incident was resolved at 0123 hours and all systems were returned to normal.

INCIDENT ANALYSIS

Command Operations

Incident command was established early and morphed into unified command quickly. Agencies worked very well together with key representation at the command post including DFREM, law enforcement, VDOT, VDEM, and the RP. Battalion 603 integrated well into the command structure as the Hazmat Group Supervisor. This was one of the first times that the command component of Hazmat 619 (the new vehicle) was used and served Command personnel well.

Discussion point:

Unified command is essential in effectively managing incidents of this nature. The ability of Battalion 603 to seamlessly integrate into the command structure is a testament the regional cooperation the Northern Virginia fire departments have developed. The ability to have a structured space of sufficient size for unified command personnel worked well and allowed us to bring all of the key players into one, climate controlled area with live video of the incident. Updated information was given to unified command in order to make informed and timely decisions.

System Impact

The original IAP was well thought out and had minimal impact on the fire and rescue system's ability to meet other needs. Battalion 1102 reported to the ECC and moved units to cover areas throughout the county. Battalion 1102 was able to move staffing to relieve the day work staff to facilitate personnel going off duty by contacting volunteer leadership from several stations throughout the county.

Discussion point:

Complex incidents often require more than one command officer and/or command aides. Battalion 1101 and Battalion 1102 worked collaboratively by cell and radio communication to manage resources county wide. Constant evaluation of the incident needs and committed resources is required to maintain a balance in the system. During this time, the system appropriately handled many EMS incidents with one of those being a medevac. Although we made the decision to utilize 4 hour crew rotation times, we could have gone to 12 hour rotations due to weather conditions.

Apparatus Positioning

The first due unit (Wagon 1111) initially positioned in the direction from which they responded. Due to the quick response from Wagon 1111, Battalion 1101 was able to reroute Engine 1105 to come in from the North side of the incident. By doing this we were able to isolate the incident with the correct isolation distances from the start. Due to wind conditions Wagon 1111 had to be moved back approximately 500 feet. This was done as a safety precaution as no abnormal reads were ever noted.

Discussion point:

The potential needs to be recognized and evaluated when sizing up the hazard. Apparatus positioning needs to be carefully planned out to avoid being in a compromising position should the event deteriorate. The basics of uphill, up wind, and in this case keeping the path forward and to the rear of the vessel clear need to be followed. Due to the fact that that we have had a similar incident in the last year, the crews had knowledge of this type of emergency.

Incident Challenges

Hazmat 1103 responded initially. Hazmat 1103 is not staffed with hazardous materials technicians. Deployment capabilities of the equipment is limited. Hazmat 619 was requested and responded with a full team, command officer, and four vehicles and demonstrated a high level of proficiency. The Virginia Department of Emergency Management Hazardous Materials Officer responded from Harrisonburg however was in telephone contact with the command post while enroute.

Discussion Point:

Recognizing the limitations of specialty units prior to such an event is essential. As we learned from the last large scale propane incident, Hazmat 619 is a great regional resource. Due to this knowledge once a leak was confirmed, the team was requested.

Discussion point:

Canteen 1101 was utilized to bring refreshments to the scene. The weather was cold and availability of warm refreshments helped the responders maintain situational awareness. A plan for providing facilities for campaign events (more than 12 hours) was discussed but not utilized because we were able to contain and clean up the incident rather quickly.

The potential for a larger leak and fire from a pressure vessel of this nature was foremost in creating the action plan. The truck needed to be up righted before off-loading could commence but only after some of the vapor was flared off. This incident was a good demonstration of the integrity of the tank design and engineering measures that are in place to prevent leakage from this type of vehicle.

Discussion Point:

This was a high risk, low frequency event. Proper training, regional interoperability and interagency cooperation were the keys to successfully mitigating this hazard. Fortunately, this event occurred in a rural setting with limited life hazard.

Discussion Point:

This incident could have taken an exorbitant amount of time if not for the training of the crews on scene. Had the incident turned into an extended campaign, Command and Battalion 1102 were prepared to rotate more personnel in and out of the incident. Battalion 1102 worked with DFREM personnel and with the volunteer staff to successfully mitigate the event. Two of the relief crews were from Station 1111 and 1110. The relief medic crew was from station 1114 as the station was able to staff with a combination of

volunteers and DFREM personnel in order to allow Medic 1114 to come to the scene. This type of integration shows the kind of strong combination Fire and Rescue system we have.

Questions regarding this event should be directed to Battalion Chief Arft.

