

**State Fire Prevention
Commission**

F. I. R. E. Team Report

Aetna Hose, Hook & Ladder



Company Biography

Aetna Hose, Hook & Ladder Co was formed on December 17, 1888. Today, Aetna maintains 5 buildings. Station 9-A was built in 1890, Station 9 in 1922, Station 8 in 1963, Station 7 in 1985, and Station 10 in 2005. Aetna Hose, Hook & Ladder is a combination department made up of volunteers and 20 Career staff employees that work primarily out of Station 9 staffing Ladder 9, Squad 9, and cross-staffing ambulance C-9.

Approximately 45 part-time employees staff Aetna Hose, Hook & Ladder's ambulances. A-9 and B-9 are out of Station 9 and A-10 is staffed out of Station 10. There is also a Chiefs vehicle, and two command vehicles available for Officers to use to cover District Command. Aetna also has a Live-In program and houses up to 12 Firefighters to assist with fire staffing.

Incident Overview

On February 9, 2024, Aetna Hose Hook and Ladder Engine 9 was being transferred from Station 7 located at Thorne Lane to Station 10 located in Glasgow at 22:55. Engine 9 had a (4) person crew consisting of a driver, officer, and 2 firefighters. At the time of the crash Engine 9 was traveling southbound on Elkton Road approaching Christina Parkway. As the engine approached the intersection the driver attempted a left-hand turn onto Christina Parkway and at that time the driver lost control of the vehicle and the vehicle flipped and came to rest on its left side.

The crash was investigated by the Newark Delaware Police Department and no charges were filed.

" Engine", or "Engine 9" refers to the driving apparatus, or fire truck.

Photographs from Investigation:

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Incident Review

Most of the investigation was done by reviewing the Newark Police Department's crash report. FIRE Team investigators interviewed all four occupants of the engine as well. A review of the police crash report indicated that Aetna Hose Hook and Ladder Engine 9 was traveling S/B on Elkton Road approaching the intersection with Christina Parkway. The apparatus was not making an emergency response when the crash occurred. Engine 9 is a reserve engine and was being transferred between stations.

The police report stated that the driver of the engine stated that the left turn arrow was red, and the straight lane was a green light. Engine 9 driver advised that he wanted to turn left onto Christina Parkway. Engine 9 driver stated that he wanted to slow down and stop at the light, but the truck did not stop. Engine 9 driver stated that he was not sure if there was a brake malfunction or if his foot was stuck on something that caused the truck to fail to stop. Engine 9 driver was driving with bunker pants at the time of the crash. Once Engine 9 approached the intersection and could not stop, the Engine 9 driver attempted a left-hand turn. The truck entered the turn at a speed that did not allow for the truck to make the turn. As the truck entered the turn it began to wobble, lost control and came to rest on the driver's side of the engine.

Newark Police were able to contact a witness on the night of the crash. The witness stated that they were N/B on Elkton Road, and he observed the Aetna fire truck traveling S/B on Elkton Road. The witness stated that the truck appeared to be traveling at a high rate of speed and that the truck did not have its emergency lights activated. The witness stated that they witnessed the fire truck make a left-hand turn onto Christina Parkway and stated that once the truck made the turn, he observed the truck start to wobble before control was lost and the truck rolled over onto its driver's side.



Investigators were able to make contact with this same witness who restated what he had told police on the night of the crash.

On March 18, 2024, a representative from Atlantic Emergency Solutions met Newark Police at Ewing Towing to have the technician look at Engine 9. The technician left a brief report. The technician's report stated that he hooked air to the tank on the bottom of the truck and the brakes released and applied as they should. The report did state that the truck failed a pressure drop test. The technician was unable to advise if this leak was occurring before or as a result of the major crash damage. The report stated that none of the brake chambers leaked, and he did not hear any air leaking from under the truck. The report stated that the brake shoes were good front and back and there were no stress or heat cracks noted on the rotors.

As part of the investigation, Newark Police were able to obtain a copy of the video from the red-light vendor. Newark Police crash report stated that the investigating crash reconstruction investigator viewed the video and through a mathematical formula with error compensation the investigator estimated the Engine was doing 52.03 mph. Newark Police were able to review additional data from Engine 9's recorder and a review of that data led investigators to feel that the data was consistent with the driver's statement that his foot may have become stuck possibly hitting the accelerator and not the brake.

Investigators had Atlantic Emergency Solutions download the data from the onboard recorder. The data indicated that with all seat belts and seat sensors working properly, seat 2 (Officer Seat) and Seat 7 (Forward facing seat behind the driver) were not buckled at the time of the crash.

Training and Standard Operating Procedures

A review of the training records indicates that the driver of Engine-9 had Emergency Vehicle Operator training from the Delaware State Fire School. Delaware State Fire School Training records show that all four firefighters met the requirements for Structural Fire Fighting under 709 of the Delaware State Fire Prevention Regulations. Even though the engine was being transferred from one station to the other a call for service can come in at any time. If Engine 9 had to go into service for a fire call all crew members had the training to do so.

Aetna Hose Hook and Ladder provided Standard Operating Guidelines with departmental apparatus. Aetna has an SOP for the Use of Company Vehicles, Minimum Requirements, and Drivers Training (SOP # F304). Seat Belts (SOP # F206). The listed SOPs indicate that drivers and passengers of the apparatus must wear seatbelts.

Maintenance

Aetna Hose Hook and Ladder provided maintenance and work Order paperwork for Engine 9. A review of those records indicates that Engine 9 has had preventive maintenance and repairs since going into service in 2017. The repairs made and maintenance done are what you would expect for an active in-service piece of equipment.

Summary

Investigation revealed that:

- Speed was a factor in the crash.
 - The police report estimated that the apparatus approached the light and made the turn at 52.03 mph.

Two possibilities exist that may have caused speed to be a factor:

- One would be that the driver operator got his foot hung up, or stuck and the driver was unable to fully depress the brakes in a manner to slow the apparatus down to a speed that the apparatus could negotiate the turn. This possibility was relayed to police on the night of the crash by the apparatus driver.
- A second would be an issue with the brakes. The police report stated that they had Atlantic Emergency Solutions come and do a test on the brakes. A technician from Atlantic hooked air to the braking system and the report stated that the brakes released and reset as they should. The technology did indicate that the brake system did not pass the leak test and was leaking air. The police crash report stated that the technology could not determine if this leak was before the crash or a possible result of the crash.

Recommendations

- With today's short staffing of fire apparatus, it is not uncommon for the driver to become more involved in duties other than just driving.
- If a department chooses to have their drivers wear bunker pants while driving, it is best to make sure that driver training is done in bunker pants. Bunker pants can make moving from accelerator to brake feel different when wearing bunker pants. There is no NFPA guidance on wearing bunker pants while driving fire apparatus, but some manufacturers of fire apparatus advise against wearing bunker pants while driving. Ultimately, the decision to wear bunker pants may best be left up to the comfortability of the apparatus driver.
- All departments should have policies for wearing seatbelts. These and all other policies should be reviewed and signed off on by staff yearly.
- All driver operators and officers must make sure that all occupants are buckled up and belted into their seat.

Additional photographs from the Investigation.

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