

Flash Fire at Motor Vehicle Accident

BACKGROUND AND INVESTIGATION

The call for service was dispatched as a three car motor vehicle accident (MVA) in a suburban community. The response to the scene was a department commander with -1 personnel, one engine with -3 personnel, a utility vehicle with -1 personnel, and a private ambulance company with -2 personnel. The accident occurred on a two-lane rural road when the Vehicle-1 made a sudden stop to avoid hitting wildlife and was struck from behind by Vehicle-2. Vehicle-3 came around the bend in the road at moderate speed and struck Vehicle-2 in the rear.

Upon arrival of the command officer, it was relayed that Vehicle-2 sustained the heaviest damage and had a minor fuel leak from the rear. All occupants were out of the vehicle and EMS personnel were attending to the injured patients on the side of the road. All patients were clear of the area with a vehicle leaking fuel from its tank. Firefighter #1 was on a charged hose line with turnout gear and SCBA with no mask and was in standby mode standing close to the vehicle. The engineer (driver) Firefighter #2 was in a kneeling position next to the vehicle attempting to stop the leak. Firefighter #2 was wearing turnout gear and extrication gloves. His method of attempt was to use a golf-tee applied to a crimped area of the tank and secure it with duct tape. No spill-containment was in place at the time, as the leak had only made a "small puddle and stream" of the product. Firefighter #3, who was attempting to disconnect the power supply located in the rear seat of the vehicle, was also wearing basic PPE. The commander was assisting EMS with patient evaluation to determine if additional ambulances would be needed for patient care.

It is unknown if a spark was created by either Firefighter #2, who was attempting to stop the "minor" leak, or Firefighter #3, who was securing the power supply. In either case, there was a "flash fire" under the vehicle that rolled across the bottom and up the side of the vehicle, briefly engulfing Firefighter #2. Firefighter #1's focused attention on the operation allowed for immediate application of a fog pattern over the area, limiting the extent of injury to Firefighter #2. Firefighter #3 exited the cabin of the vehicle and assisted the commander in attending to Firefighter #2's injuries. The initial evaluation of the situation found the injured party dazed and confused with what was reported as "serious burn injuries to hands." The commander requested air transportation to a local burn center and additional units for assistance even though the fire was quickly extinguished.

DAMAGES AND LIABILITY ASSESSMENT

Firefighter #2 sustained minor first and second degree burns to his hands, neck and face resulting in an extended loss of time from work due to the incident. During the interview process with the department chief, he stated, *"If it was not for the attentiveness of [Firefighter #1] to the operation, the injuries could have been more significant. The total event only lasted approximately 20-30 seconds before it was over."* The initial assessment of "serious burns" was surmised by the visual appearance of the destroyed gloves on Firefighter #2's hands and the initial heat color to his face and neck with potential to a compromised airway issue. It was found that due to the prolonged work on the leaking tank area, the gloves that were worn were fairly saturated with fuel product.

CIRMA is 100% responsible for paying for this incident, as the volunteer was determined to be acting within the scope of his regular fire duties. The total direct cost of this claim, including medical expenses, equaled approximately \$54,000.

INVESTIGATION AND LIABILITY ASSESSMENT

- **Ensure the use of proper Personal Protective Equipment (PPE)** – Consider reviewing and updating the department's Job Hazard Assessments (JHA's) to ensure that they are current and include appropriate training and PPE required for completing fire duties.
- **Incident Command training for evaluating Risk Assessment** – Training should include identifying and prioritizing scene hazards upon arrival and throughout the event.
- **Ensure that there are sufficient resources available** – Consider ensuring that there are an appropriate number of personnel on scene in order to properly mitigate the event in accordance with NFPA 1091 standard.

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- **Maintain incident scene stability and safety** – This may include ensuring that a dedicated Safety Officer was present at the time of the event.
- **Review Incident Commander Roles and Responsibilities** – Regularly assess Incident Commander roles and responsibilities, including scene oversight and proper command presence throughout the entire event.

Questions on this topic? Ask your Supervisor or CIRMA Risk Management Consultant at (203) 946-3700.