A **30 year old male** employee was burned due to a flash fire that occurred while utilizing a propane torch to loosen asphalt from the chute of a silo. The flash fire caused him to fall approximately 7' from the bucket of a loader being used to raise him to the work area. He succumbed to his injuries a month later.

The company is a highway construction business that works throughout the state for highway repairs. The location of the incident was the employer's asphalt production plant where they produce asphalt for paving operations occurring at various locations.

On the day of the accident, the last truck of the day had just been loaded via silo #1 and the employees were starting clean-up operations to complete the day. The Aztec asphalt plant consists of two silos used for the storage of asphalt that is dispensed into trucks throughout the day for various road projects being conducted in the area. Silo #2 had been clogged up the entire day according to employees due to the temperature outside on the night before. The asphalt had hardened and was unable to be dispensed as intended. Silo #1 was used throughout the day and once the final load had occurred, the crew began to clean the silos and drag chain of the plant as they typically did daily.

Interviews revealed that daily cleaning operations of the system are done by adding diesel fuel to the system just as they would with asphalt cement (AC) for typical asphalt production operations. Employees utilize two 5-gallon buckets of diesel fuel to add it to the coater where the AC chemical is typically added to mix with the granulates to create the asphalt. The coater takes the diesel fuel up the drag chain and ultimately to both silos covering the interior components of the plant breaking lose any asphalt that has hardened throughout the day. On this day the same process was done, but the blockage in silo #2 was not overcome using the diesel and employees began working to address the blockage in other ways.

Employees utilized a metal bar and attempted to break asphalt from the opening of silo #2 but were unsuccessful in their efforts. The victim was lifted via Komatsu bucket loader to approximately 7' to reach the opening of silo #2. The victim obtained a propane torch and attempted to heat up the hardened asphalt in silo #2 opening, but when the flame of the torch was placed in the opening a flash fire occurred knocking the victim off the bucket and to the ground. The victim was engulfed in flames and received burns to 60%-70% of his body as well as multiple broken bones during the fall. One other employee received minor burns attempting to put out the fire on the victim. Employees revealed that a propane torch is used often to heat and loosen hardened asphalt within the opening and a flash fire of this nature had not occurred before.

Further investigation revealed that typically when the cleaning of the plant with diesel fuel is done, a vent is open at the top of the silos, but it was determined that the vent was opened just prior to the flame of the torch reaching the opening. It is believed the diesel fuel fumes had accumulated in silo #2 leading to the flash fire as the flame was introduced to the area.

Employees explained that the plant has a hot oiler system built in that keeps the components of the system warm, so the AC does not stick, but the hot oil system is nonoperational and has been for

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many years. If the hot oil system of the plant was repaired and maintained the use of diesel fuel would not be needed. Employees typically utilized an aerial lift onsite to work at heights, but the equipment was down for maintenance, so the loader was used instead.

## Citation(s) as Originally Issued

A complete inspection was conducted at the accident scene. Some of the items cited may not directly relate to the fatality.

# **<u>Citation 1 Item 1</u>** Type of Violation: Serious \$2,000

TCA 50-3-105(1): The employer did not furnish employment and a place of employment which were free from recognized hazards that were causing or likely to cause death or serious physical harm to employees:

In that, a 500-gallon diesel tank was not protected from accidental damage by barriers or safeguards exposing employees to a fire hazard.

Among other methods, feasible and acceptable abatement methods to correct these hazards would be to identify and safeguard the location in which the 500-gallon tank is stored to ensure protection from the equipment being operated in close proximity.

## Citation 1 Item 2 Type of Violation: Serious \$5,400

29 CFR 1910.28(b)(1)(i): Except as provided elsewhere in this section 29 CFR 1910.28, the employer did not ensure that each employee on a walking-working surface with an unprotected side or edge that is 4 feet (1.2 m) or more above a lower level is protected from falling by one or more of the systems described in 29 CFR 1910.28(b)(1)(i):

In that one employee was not protected from falling while working from a Komatsu loader bucket elevated to approximately 7' from the ground surface.

#### Citation 1 Item 3 Type of Violation: Serious \$2,000

29 CFR 1910.30(a)(1): The employer did not provide training for each employee who uses personal fall protection systems or who is required to be trained as specified elsewhere in this subpart before any employee is exposed to a fall hazard.

In that employees had not been properly trained on the hazards associated with working at heights.

#### Citation 1 Item 4 Type of Violation: Serious \$5,400

29 CFR 1910.106(e)(6)(i): Adequate precautions were not taken to prevent the ignition of flammable vapors:

In that one employee was fatally injured when utilizing a propane torch while working from a Komatsu loader bucket to loosen asphalt within the Silo #2 chute opening leading to a flash fire exposing an employee to fire and fall hazards.

<u>Citation 1 Item 5</u> Type of Violation: Serious \$2,000

29 CFR 1910.151(b): There was neither an infirmary, clinic, or hospital used for the treatment of all injured employees in near proximity to the workplace nor a person or persons adequately trained to render first aid:

In that there was not a person or persons adequately trained to render first aid treatment to injured employees.

Citation 1 Item 5 Type of Violation: FTA-Serious \$12,000

29 CFR 1910.151(b): There was neither an infirmary, clinic, or hospital used for the treatment of all injured employees in near proximity to the workplace nor a person or persons adequately trained to render first aid:

In that there was not a person or persons adequately trained to render first aid treatment to injured employees.

<u>Citation 1 Item 6a</u> Type of Violation: Serious \$2,000

29 CFR 1910.157(c)(1): Portable fire extinguishers were not mounted, located, and identified so that they were readily accessible without subjecting the employees to injuries:

In that, the ABC fire extinguisher located at the asphalt plant was sitting on the ground approximately 10' away from its identified location and mount on the structural member of the plant.

Citation 1 Item 6b Type of Violation: Serious \$0

29 CFR 1910.157(c)(4): Portable fire extinguishers were not maintained in a fully charged and operable condition:

In that, an Amerea ABC portable fire extinguisher located at the asphalt plant was not maintained properly and was observed with the needle of the gauge indicating that the extinguisher needed re-charging.

Citation 2 Item 1 Type of Violation: Other-than-Serious \$500

**TDLWD Rule 0800-01-03-.05(1)(a)2:** Within twenty-four (24) hours after the in-patient hospitalization of one or more employees or an employee's amputation or an employee's loss of an eye, because of a work-related incident, the employer did not report the in-patient hospitalization, amputation, or loss of an eye to TOSHA.

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In that, an incident resulting in the hospitalization of an employee on December 3rd, 2021, at 4:45 p.m. was not reported to TOSHA until December 6th, 2021.

## Citation 2 Item 2a Type of Violation: Other-than-Serious \$450

29 CFR 1910.1200(f)(10): The employer did not ensure that workplace labels or other forms of warnings were prominently displayed on the container or readily available in the work area throughout each work shift,

In that, a 500-gallon diesel fuel tank used to fill equipment and smaller containers was not labeled in to identify the flammability of the chemical within.

## <u>Citation 2 Item 2b</u> Type of Violation: Other-than-Serious \$0

29 CFR 1910.1200(g)(8): The employer did not ensure that Safety Data Sheets were readily accessible to the employees in their work area during each shift:

In that, employees were unable to identify the location of the safety data sheets for chemicals they were exposed to while working including Phillips 66 Superpave PG and diesel fuel.

# Citation 2 Item 2 b Type of Violation: FTA-Other \$1,500

29 CFR 1910.1200(g)(8): The employer did not ensure that Safety Data Sheets were readily accessible to the employees in their work area during each shift:

In that, employees were unable to identify the location of the safety data sheets for chemicals they were exposed to while working including Phillips 66 Superpave PG and diesel fuel.

#### Citation 2 Item 2c Type of Violation: Other-than-Serious \$0

29 CFR 1910.1200(h)(1): Employees were not provided effective information and training on hazardous chemicals or materials in their work area at the time of their initial assignment and whenever a new hazard was introduced into their work area:

In that, the employees working at the job site had not been provided information and training concerning hazardous chemicals used, such as but not limited to, diesel fuel and Phillips 66 Superpave PG

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