Working on or Near Roadway Maintenance Machines

FAMES 2024

Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES)

FAMES. The FRA formed this committee with railroad labor and management representatives to form an ad-hoc committee to review roadway worker fatalities.

The FAMES Committee wants to conduct a 12-month focus on the safety around and operation of Roadway Maintenance Machines (RMM) through the following three elements:

- Quarterly communications on specific RMM topics.
- A social media campaign.
- Site visits across the nation.

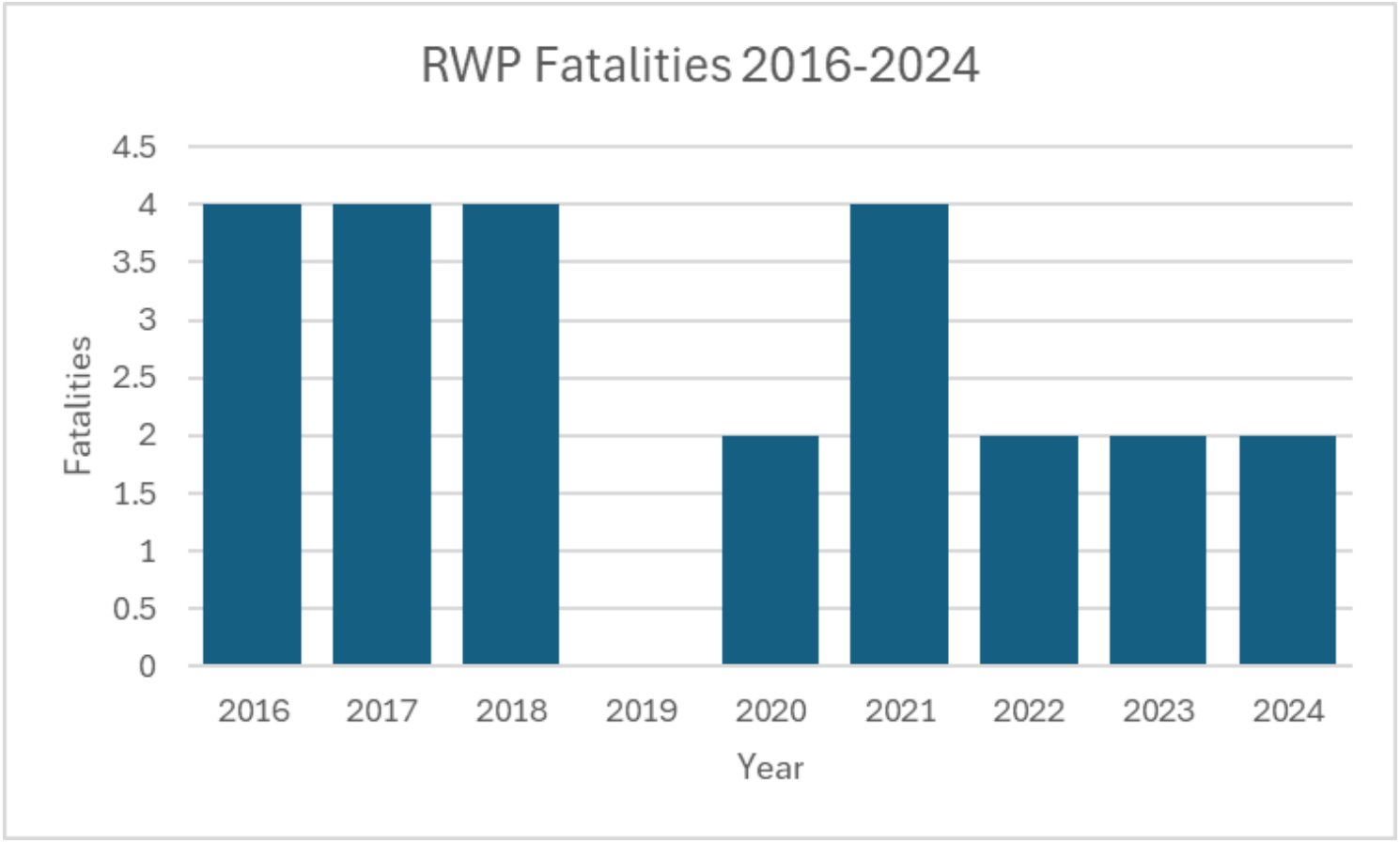
The site visits, a crucial part of our strategy, are entirely voluntary for FAMES committee members and the railroads. This underscores our non-punitive approach and builds trust. They are designed to raise awareness about RMM safety. Any safety concerns identified will be addressed by the railroad non-punitively from FRA. Our motivation is rooted in the following data:

- RMM fatally stuck 14 individuals from February 1997 to May 2024.
- Six fatalities from January 2020 to May 2024 involved being struck by RMMs.
- Three fatalities in 2023-2024 struck by an RMM.

The site visits would consist of a FAMES member from the Railroad, Labor, and FRA, demonstrating our collective commitment to improving safety. This unity and dedication are key to our mission.

Just as in the FAMES meetings, each member will take their respective hats off to come together as a team, raising awareness of safety concerns, reducing the risk of future occurrences, and eliminating roadway worker fatalities.

Roadway Worker Fatalities (2016-2023)



Note—Fatalities are only those directly linked to the RWP regulation. Statistics do not include other engineering department-related employee fatalities such as highway accidents, crane accidents, falls from equipment, deaths at grade crossings—even in the crossing of the track—death by natural cause, etc.

What is a Roadway Worker

49 CFR § 214.7 - Definitions.

Roadway worker means any employee of a railroad or a contractor to a railroad whose duties include inspection, construction, maintenance, or repair of railroad tracks, bridges, roadway, signal an d communication systems, electric traction systems, roadway facilitie s, or roadway maintenance machinery on or near track or with the potential of fouling a track, and flagmen and watchmen/lookouts as defined in this section.

A roadway maintenance machine is a device powered by any energy other than hand power used on or near a railroad track for maintenance, repair, construction, or inspection of tracks, bridges, roadways, signals, communications, or electric traction systems. Roadway maintenance machines may have road or rail wheels or may be stationary.

RMM Fatalities 2020

Connecticut, October 14, 2020

A 59-year-old railroad employee with 21 years of service was fatally injured during the installation of a switch panel. The employee was walking between the hi-rail excavator (on-track) and a switch panel adjacent to the track. The employee entered the area between the existing track and the switch panel and was fatally crushed by a hi-rail excavator.

RMM Fatalities 2021

Arizona, January 31, 2021

A 60-year-old railroad laborer with 41 years of service was fatally injured when a tamper struck him. The fatally injured employee was marking ties for the tie gang when the tamper struck him.

RMM Fatalities 2021

Pennsylvania, December 8, 2021
A 27-year-old contractor with two years of service, while marking scrap rail, was struck by a rail spiker making a reverse move and fatally injured.

Texas, September 22, 2021
A railroad contractor was hauling 20-foot-long bridge grates with a hi-rail excavator when the roadway worker was fatally injured. Traveling alone, the contractor, operating the hi-rail (on-track) excavator equipped with a grappling device, was carrying bridge grating from a bridge to the material staging area.

RMM Fatalities 2022

Kansas, November 9, 2022

A 49-year-old roadway worker with six months of service was fatally injured when the rigging strap being used to load a switch-point broke, causing loss of control of the load and the switch-point to fatally injure the roadway worker. The deceased employee used a tagline to help guide the load into the back of the truck.

RMM Fatalities 2022

Texas, November 5, 2022

A 54-year-old roadway worker with 18 years of service was fatally injured when the oxygen/propane gases exploded in a compartment housing the cutting torch and hoses on the welding truck. The deceased employee was making a saw cut on the rail for a thermite weld when the sparks from the rail saw entered the truck compartment and ignited the gases.

RMM Fatalities 2023

Massachusetts, August 4, 2023

A 51-year-old roadway worker with less than three months of service was fatally injured when a Roadway Maintenance Machine (RMM) traveling in a reverse direction struck and fatally injured the employee. There were two roadway workers on the ground fouling the track. One of the two roadway workers on the ground at the accident site cleared from the track. The second worker remained in the foul of the track. The worker who cleared the track shouted to the fouling employee to clear, but ultimately, he did not clear and was fatally injured.

RMM Fatalities 2024

North Carolina, February 13, 2024

A 41-year-old maintenance-of-way tie gang foreman with 17 years of service was struck and fatally injured by an on-track roadway maintenance machine in Roanoke Rapids, NC. A ballast regulator was occupying part of a crossing and preparing to dress ballast on the north approach, working in a north direction. As a highway motor vehicle approached the crossing, three employees flagging the crossing turned their attention to a highway vehicle to stop it. At this time, the foreman occupied the gage of the track just north of the regulator and was struck and fatally injured by the northbound movement of the regulator.

RMM Fatalities 2024

McNeil, AR April 11, 2024

A 42-year-old maintenance-of-way manager with 13 years of service was struck and fatally injured by a roadway maintenance machine in McNeil, AR. A maintenance-of-way workgroup using an excavator was replacing a culvert under the track. The manager was crushed between the excavator bucket and the track on the machine.

A Somber and Important Reminder

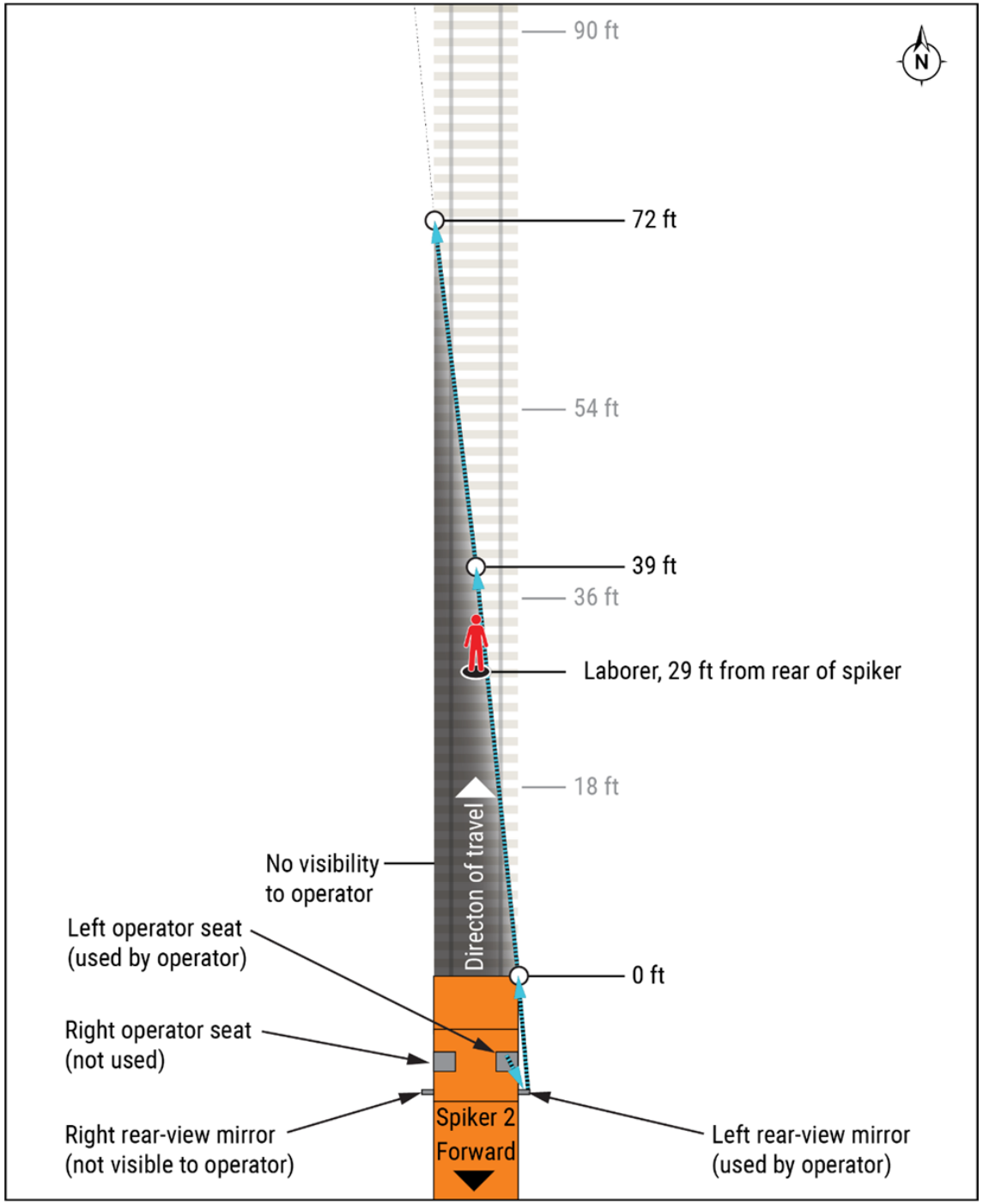
Nine dedicated roadway workers have tragically lost their lives while carrying out their essential duties operating or working around Roadway Maintenance Machines (RMM). This alarming trend within our craft demands immediate attention. As we mourn the loss of these valued individuals, it's crucial to reflect on the significance of adhering to railroad policies when operating and working with RMMs.

FAMES 1,2,3,4 Approach

1. Communication

- Emphasize the importance of clear and continuous communication between ground personnel and operators, engaging them in their responsibility for safety.
- Ground personnel should proactively communicate with all operators who could potentially come into contact with them, exceeding the railroad's required distance guidelines when necessary.
- Communicate the responsibility of ground workers to avoid entering the red zone.
- BMWED recommends conducting individual briefings between operators and ground workers, with additional re-briefings to address new hazards or changes.
- Highlight the significance of job briefings, encouraging the use of safety-related questions to ensure comprehensive understanding rather than just confirming acknowledgment.

Red Zones / Working Limits

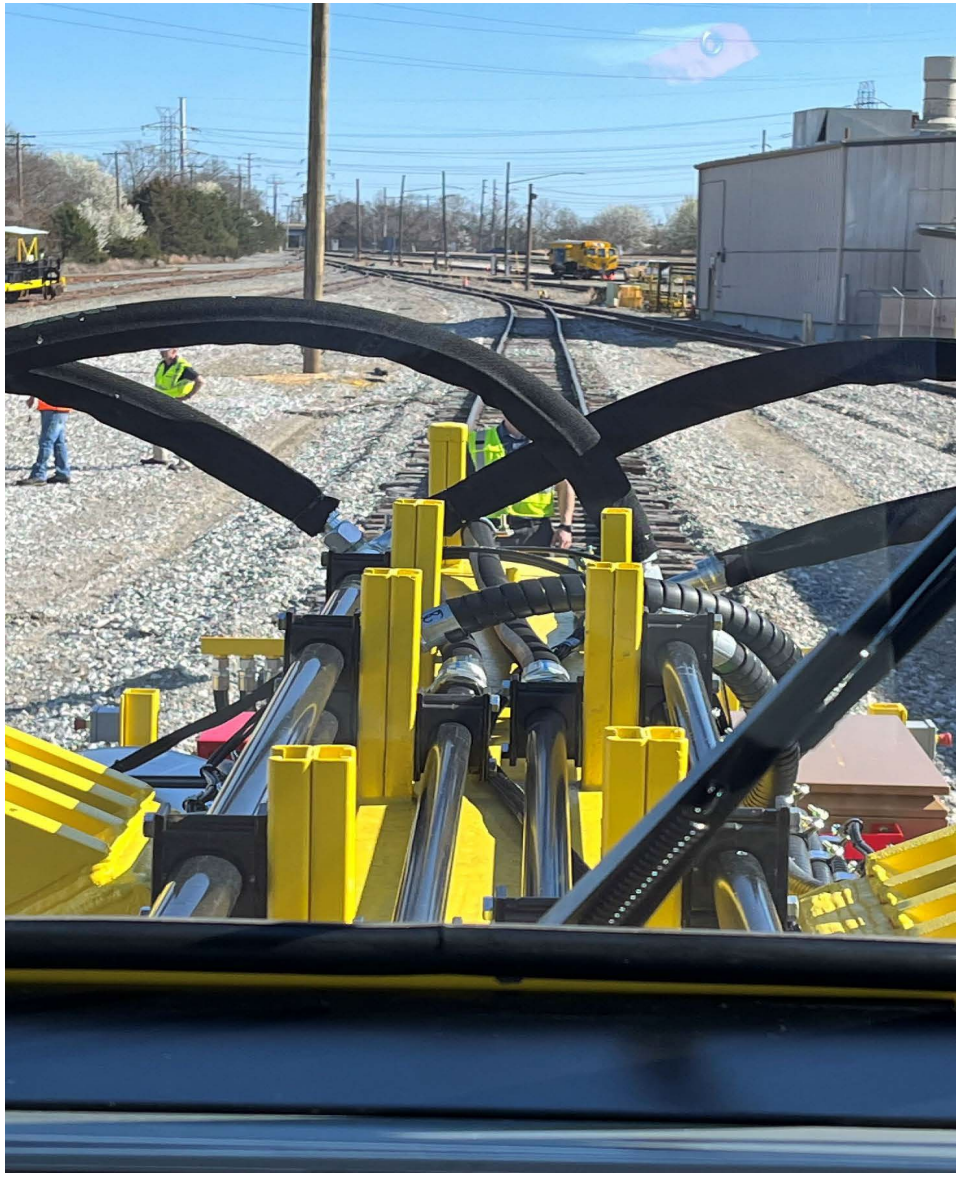


FAMES 1,2,3,4 Approach

2. Teamwork - Operator and Ground Personnel Team Up - Inspection/Blind Spots

- Stress the necessity of collaboration between operators and ground personnel to ensure a safe working environment during RMM operations. Your role is crucial and integral to the operation's success.
- Emphasize the importance of thorough RMM maintenance and inspections, including:
    - Proper functioning of safety appliances (e.g., change of direction alarms, backup alarms, collision avoidance systems, strobe lights).
    - Cleanliness and operability of radio equipment and ensuring the operator's manual is readily available on the machine.
    - Highlight the need for prompt identification and repair of defects.
    - Emphasize the importance of understanding and being aware of each machine's red zone (line of fire zone).
    - Encourage ground personnel to view their work environment from the operator's perspective to better understand blind spots and visibility limitations.

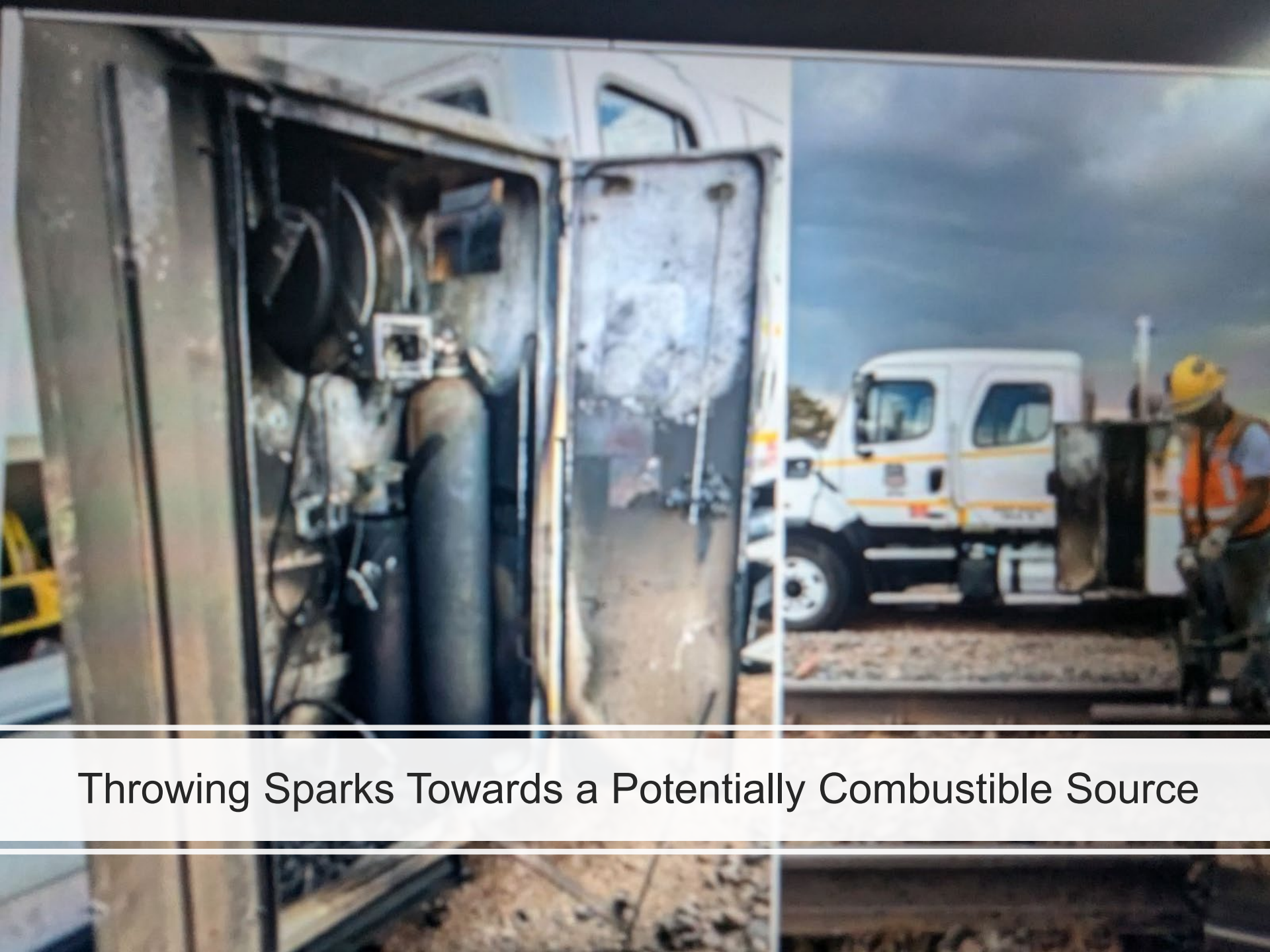
Red Zones / Working Limits



FAMES 1,2,3,4 Approach

3. Lockout/Tagout - Torch Cylinders

- Reinforce the importance of adhering to LOTO procedures during RMM inspections and maintenance. These procedures are not just guidelines but a crucial part of our safety protocol.
- Ensure all personnel are thoroughly trained and consistently follow LOTO protocols to prevent accidental machine start-ups.
- Discuss the detailed process for repairing identified defects, including specific timelines and the consistent application of LOTO procedures throughout the repair process.
- Ensure torches, cutting cylinder tanks, and fittings are free from leaks. Employees should transport these cylinders properly. Don’t throw sparks at any potential combustible source.



Throwing Sparks Towards a Potentially Combustible Source

FAMES 1,2,3,4 Approach

4. Operation

- Focus on operators' proper use and inspection of safety appliances, ensuring they respond appropriately when prompted by safety devices.
- Emphasize the crucial role of regular maintenance and cleanliness of RMM equipment in ensuring optimal operation and safety, instilling a sense of responsibility and proactivity.
- Ensure operators know how to stop the machine if the main brakes fail safely. - Review and adhere to railroad-safe traveling and working distances between machines to maintain a safe operational environment.
- Verify that the route is safe before traversing any grade crossing and proceed with caution for your and others' safety.
- Lifting and rigging: ensure all employees involved in lifting and rigging are trained on the procedures and that proper inspections are conducted of all lifting components.



Ensure Safety Through Maintenance, and Training

Goals

Aim for zero RMM-related fatalities by the end of the focus year and into the future through consistent communication, effective teamwork, and strict adherence to established safety protocols. Ongoing education, proactive safety measures, and a culture of continuous improvement in safety practices will support this goal.

"Zero RMM Fatalities: Communicate, Collaborate, and Commit to Safety!"