

Fatality Analysis of Maintenance-of-way
Employees and Signalmen



May 17, 2017

Dedication:

The FAMES Committee dedicates its efforts to all roadway workers who have lost their lives in the performance of duty and to the families, loved ones, and coworkers they have left behind.

Safety

on

Railroad Bridges

Mission Statement:

The Mission of the Fatality Analysis of Maintenance-of-way Employees and Signalmen (FAMES) Committee is to analyze all fatalities and selected related incidents in order to make recommendations to reduce the risk of future occurrences and eliminate fatalities to roadway workers.

Safety on Railroad Bridges

The FAMES Committee has reviewed the available data from 14 railroad bridge fall accidents, in which 12 fatalities and 2 serious injuries occurred. Given that bridge workers¹ constitute a small percentage of the railroad worker population, this is a significant number.

Unsecured walkways/gratings were the primary cause in one-half of the fatal accidents and serious injuries. Of grave concern is the fact that in several of those accidents, supervisors and employees were aware of the unsecured walkways/gratings but did not take necessary steps to mitigate the risk; in fact, in some instances the killed or injured worker helped unsecure the walkway/gratings.

Below are the findings and recommendations of the FAMES Committee which are intended to raise awareness and prevent injuries and fatalities among railroad bridge workers.

Findings:

- Between 1998 and 2013, at least 12 bridge worker fatalities and 2 serious injuries occurred from falls from railroad bridges.
- In 13 (93%) of the 14 accidents, failure to use fall protection was a primary contributing factor.
- In fifty percent (50%) of the accidents (5 fatalities and 2 serious injuries), the falls were caused by unsecured or removed walkways/gratings.
- Drowning was the cause of death in 4 (33%) of the 12 fatal falls.
- In 8 (67%) of the 12 fatal falls, insufficient training of bridge workers was noted by FAMES.
- In 6 (50%) of the 12 fatal falls, insufficient management oversight was noted by FAMES.
- Two of the fatalities involved suspended loads; 1 caused a crushing fatality and the other knocked a worker off the structure.
- Shortline and regional railroads comprised 6 (43%) of the 14 bridge falls.
- Contractors accounted for 4 (29%) of the 14 bridge falls.

Recommendations:

- Each railroad should have comprehensive, written bridge worker safety instructions, readily accessible to every employee who works on a bridge.
- Conduct a thorough hazard analysis of all bridge work and discuss all identified hazards and mitigation measures in the job briefing prior to commencing work and whenever conditions change.
 - When fall protection is needed, the job briefing should clearly articulate that employees must be tied off 100% of the time.

¹ *Railroad bridge worker or bridge worker* means any employee of, or employee of a contractor of, a railroad owning or responsible for the construction, inspection, testing, or maintenance of a bridge whose assigned duties, if performed on the bridge, include inspection, testing, maintenance, repair, construction, or reconstruction of the track, bridge structural members, operating mechanisms and water traffic control systems, or signal, communication, or train control systems integral to that bridge.

- Secure any unsecured walkways/gratings immediately or remove and protect the opening. Unsecured walkways/gratings, especially short sections, pose a significant risk due to the “trapdoor” effect.
- Every bridge worker must be trained in the proper use of fall protection before working on a railroad bridge.
- Always use fall protection when working on railroad bridges twelve feet or more above the ground or water surface:
 - Where walkways/gratings are unsecured or where gaps or holes exist through which a person can fall;
 - When working over the side of a bridge, using ladders on bridges, and when positioned on any elevated platform used on the bridge (e.g., truck beds and roadway maintenance machine (RMM) decks not equipped with sufficient railings.); or
 - Where otherwise required by rule or regulation.
- When in doubt about the need for fall protection, the safest course of action must be taken. Do not rely on the exemptions under FRA’s Bridge Worker Safety Standards (49 CFR Part 214 Subpart B) — make sure a thorough risk assessment is done and that the exemptions are suitable for the work:
 - The presence of walkways and railings may not rule out the need for fall protection.
 - Working exclusively between the rails may not rule out the need for fall protection.
- Managers, supervisors, and foremen must understand bridge worker safety requirements and ensure bridge worker compliance in the use of fall protection.
- When working over or next to water where the danger of drowning exists and fall protection is not otherwise required, each worker must wear a Coast Guard approved life vest. In addition, a lifesaving boat and ring buoys must be available for water rescue.
- When working at night, ensure that lighting is adequate for the detection of fall hazards and for the work being performed. If using a flashlight while working on or traversing a bridge, have a backup flashlight immediately available.
- Use extreme caution when handling suspended loads on bridges and make certain that you have a place of safety in case the load unexpectedly shifts or falls.
- When workers are sharing the bridge with passing trains or RMMs, the job briefing must include and identify the designated place of safety for workers.

The FAMES Committee consists of safety representatives from a cross section of rail labor, railroad management, and federal regulators. FAMES is a continuous improvement process that relies on the candid sharing of available data and the views of its participants. To enable the process, FAMES explicitly refrains from making any findings regarding whether any past or present practice or protocol satisfies any legal duty or standard of care.

The views, opinions, and recommendations contained in this report are those of the FAMES Committee and do not necessarily represent the views, opinions, or recommendations of any specific railroad, labor organization, or governmental agency.
