

Work Safety Zones for On-Dock Container Rail Operations in Marine Terminals

An increasing number of marine cargo-handling facilities have workers loading intermodal containers onto specialized railcars. Employers with on-dock rail facilities should develop a terminal-specific rail safety plan and establish work safety zones to protect all workers.

Working in this environment requires the full attention of all workers (those on foot and equipment/vehicle operators), and leaves no room for any distractions. Working close to rail lines exposes workers to struck-by hazards from mobile equipment and vehicles such as top/side handlers, reach stackers, rail-mounted gantry cranes (RMGs), rubber-tired gantry cranes (RTGs), straddle carriers, semi-tractors, and pickup trucks. Workers are also at risk of being struck by railcars.

Establishing a Safe Work Zone for Workers

Employers can ensure a safe work environment for longshore and other workers performing on-dock rail operations by establishing a safe work zone (or buffer zone) between the on-dock rail operations and mobile equipment and vehicles operating near active rail operations. At a minimum, the personnel safety zone should include the following:

- Sufficient width to allow workers to walk safely around all mobile equipment and moving vehicles without stepping into oncoming traffic, and permit equipment operators to work without endangering on-dock workers;
- Safety zone lines marked with reflective paint or other highly visible markings under all working conditions, including at night and in inclement weather;
- Stationary vehicles (ensure that stationary vehicle is not able to be driven away until the container rail operation is completed), safety cones or flares placed as barriers to cordon off the safety zone;
- A flagperson to direct mobile equipment and moving vehicles; and



Mobile equipment between rail car and rail line

Rail car

- Speed limits for mobile equipment and moving vehicles in traffic lanes passing close to active rail operations.

Training and Safe Work Methods

- Supervisors should hold “safety talks” with on-dock workers at the beginning of each shift. The talk should cover the layout of the yard, expected rail activity, and individual equipment/vehicle operators’ responsibility for controlling speed and maintaining a safe distance from on-dock rail operations.
- Employers must establish all necessary controls during railcar movement to safeguard personnel, [29 CFR 1917.17\(g\) – Railroad Facilities](#).
- Employers should suspend all on-dock rail operations during unscheduled rail movement and notify affected workers.
- Employers should implement written procedures for notifying personnel of all scheduled and unscheduled rail movement.

- Employers must ensure that workers know and follow all OSHA vehicle requirements, e.g., [29 CFR 1917.43 – Powered Industrial Trucks](#), [1917.44 – General Rules Applicable to Vehicles](#), and [1910.178\(l\) – Powered Industrial Trucks – Operator Training](#).
- Employers must determine that workers are competent before they are permitted to operate vehicles and equipment in marine terminals, [29 CFR 1917.27\(a\) – Personnel – Qualifications of Machinery Operators](#).
- Employers must ensure that all workers correctly wear the required personal protective equipment (PPE) as specified in [29 CFR 1917 Subpart E – Personal Protection](#).
- All workers (those on foot and equipment/vehicle operators) should be made aware of the established traffic patterns and speed limits.
- All workers (those on foot and equipment/vehicle operators) shall wear high-visibility vests or equivalent protection, [29 CFR 1917.71\(e\) – Terminals Handling Intermodal Containers or Roll-on Roll-off Operations](#).



View of an on-dock rail terminal.

Remember:

- On-dock rail operations are very dangerous. The employer is required to protect all workers.
- Workers should not be distracted during on-dock rail operations. Distractions can come from electronic devices (such as cell phones, MP3 players, and radios), or from coworkers.
- Employers and workers should maintain a strong focus on safety.

Note: States with OSHA-approved state plans may have different requirements. See www.osha.gov for more information.

Photos courtesy of the National Maritime Safety Association.

This is one in a series of informational fact sheets highlighting OSHA programs, policies or standards. It does not impose any new compliance requirements. For a comprehensive list of compliance requirements of OSHA standards or regulations, refer to Title 29 of the Code of Federal Regulations. This information will be made available to sensory-impaired individuals upon request. The voice phone is (202) 693-1999; teletypewriter (TTY) number: (877) 889-5627.

For assistance, contact us. We can help. It's confidential.



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