

OSHA FactSheet

Radio Communication Can Assist Container Gantry Crane Operators in Marine Terminals

Container gantry crane operators load and discharge hundreds of containers in a systematic fashion. The crane operators rely on their line of vision and on signals or directions from employees on the ship and on the ground below to guide them in their lifts. Risk of injuries can be reduced by the use of radio communication by the crane operators and longshore personnel.

Hazards of Container Operations

Container ships come in and out of ports on a regular basis. At each port, containers must be discharged and loaded. This requires close coordination by terminal and longshore personnel working on the ground, on the ship and in the crane. Employees on the ground and on the ship must pay close attention to their surroundings at all times. Employees have been crushed by containers (either falling or being set down), run over by vehicles, and crushed by moving cranes. Cargo operations are particularly hazardous when things do not go as planned, such as when a twistlock becomes jammed, when a container is placed in the wrong position on the ship, or when a vehicle is accidentally lifted along with the container.

The Need for Communication

Depending on the particular operation, employees under the crane and/or aboard ship may need to communicate with the crane operator. These employees must be able to communicate rapidly and accurately with the crane operator to help direct the operation and ensure that safety is maintained. During routine operations, employees typically communicate with the crane operator using hand signals recognized at the port. However, during non-routine tasks or in an emergency, employees may need more interactive communication with the crane operator. Non-routine tasks include handling oversized or unusually shaped cargo, hoisting personnel, and handling damaged containers or jammed twist-



Figure 1. Container gantry crane off-loading containers.

locks. Emergency situations can occur when one employee sees another employee beneath a load, or when a container is not properly disconnected from a chassis, resulting in accidental lifting of the tractor and chassis with an employee inside.

Radio Communication

A means of communication is required between the operator's cab and the base of the gantry of all rail-mounted cranes. This requirement can be met by telephone, radio, a sound-signaling system or other effective methods, but not solely by hand-signaling, 29 CFR 1917.45(g)(10).

The availability and use of radios to communicate with the crane operator is a particularly effective way to reduce the risk of injuries associated with container operations. In addition:

- The radio should be tested prior to use to ensure that the transmission is clear and reliable.
- Each crane should use a separate channel, if frequencies are available.
- The operator's radio should be equipped with a hands-free system.
- Radios should not be used for personal communication or discussions not related to the operation at hand.
- Make sure that the crane operator and other ground personnel communicating with the crane operator have been trained on how to properly use the radio equipment.

Radio communication across the terminal also plays an important part in responding to accidents and in safely moving equipment and per-



Figure 2. Container gantry operator working a vessel.

sonnel across the terminal. OSHA believes that by using radio communication between personnel working on the ground, on the ship and in the crane, the number of accidents in this hazardous work environment can be reduced.

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 more complete information:



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