Safe Use of Maritime Cranes Training — study guide

Cranes move the heaviest loads on the ship, and a crane accident is always severe. This guide covers the pre-lift meeting, the inspection points, the crane types and the key rules.[1][2]

Before every lift

A **risk assessment** must be carried out before every lift. Once hazards have been identified, the next step is **assessing the likelihood of the hazards occurring**, and remedial **actions** are then put in place to reduce the risk to as **low** as reasonably practicable (ALARP). The **Pre-Lift Safety Meeting** should discuss the roles and responsibilities of the Lift Team, the results of the risk assessment, and where barriers and signs should be placed so the lift area stays free from unauthorised entry. The Captain is **not** required to visit the worksite to look for additional hazards — that is covered by the risk assessment.

Equipment checks

All lifting equipment, including cranes, must be certified and clearly show the **Safe Working Load (SWL)**. A visual inspection of the crane should be carried out **every day and before use**. Crane hooks should be inspected for nicks and gouges, deformation, and wear and corrosion. If the load to be lifted is heavier than the crane's SWL, a warning light and alarm will sound in the Crane Operator's cab.

Types and configuration

Bulk carriers normally ship steel coils, cement, ore, coal and grains. A typical engine-room **gantry crane** is of the overhead **bridge** type: gantry cranes run on **rails**, allowing the crane to run from the **fore** to the aft of the engine room. If a derrick crane winch is electrically powered and the power supply is lost, the winch will automatically apply a brake to stop the lift and hold the load in a safe position. When lifting a load with twin chains attached to a master link, the ideal included angle between the chains is **90 degrees**.

Signals

The internationally recognised hand signal for an emergency stop is both arms raised with palms facing forward.

Key facts to remember

- Risk assessment before every lift; after identifying hazards, assess likelihood; controls reduce risk to ALARP.
- Pre-Lift Safety Meeting: Lift Team roles, risk assessment results, barrier/sign placement. Captain need not visit the worksite.

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- Cranes certified, SWL shown; visual inspection daily and before use; hooks checked for nicks/gouges, deformation, wear/corrosion.
- Overloaded lift → warning light and alarm in the operator's cab.
- Bulk cargoes: steel coils, cement, ore, coal, grains. Engine-room gantry crane: overhead bridge type on rails, fore to aft.
- Electric winch: loss of power → automatic brake. Twin chains: ideal included angle 90°.
- Emergency stop hand signal: both arms raised, palms forward.

Sources

1. Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 (UK) — risk assessment, inspection and SWL marking for cranes.
2. Code of Safe Working Practices for Merchant Seafarers (COSWP) — Maritime and Coastguard Agency (MCA) (crane and lifting operations).