

2600SEG124 SAFETY STANDARD FOR CRANE OPERATIONS

APPENDIX C PLATFORMS FOR HOISTING PERSONNEL

The use of a hoisting crane to hoist employees onto platforms is prohibited, except if it were more dangerous to construct, use, and disassemble conventional means to reach the work area, such as personnel elevators, stairs, overhead elevators, platforms or scaffolds, or if it were not possible to do so due to structural obstacles or worksite condition.

Requirements:

The following requirements must be satisfied whenever cranes are utilized under controlled conditions, to lower, raise or suspend personnel.

- 1. There shall be designated a crane operator and a signalman experienced in the use of personnel platforms for the crane operation.
- A meeting shall be conducted prior to the hoisting, with the presence of the person in charge, the crane operator, the rigger and/or signalman, and the persons to be hoisted in each work site, and each time there are employees recently assigned to the operation. In the meeting the requirements for exposed hoisting, as stated in this STANDARD and the procedures to be followed shall be reviewed.
- 3. A hoisting plan shall be prepared by filling out (RHSH) Form 2530 found in INFORED.
- 4. The line drum to be used for the hoisting shall have a controlled rise and fall device ("power down"). The cranes shall have controls that automatically return to neutral on release ("dead man control"). The use of the freefall shall be prohibited at all times.
- 5. The personnel platform shall be elevated in a slow, controlled, and careful manner, without sudden crane or basket motion.
- 6. The load lines shall support, without faults, at least seven times the anticipated maximum load, except when rope is used, in which case it must support, without faults, at least ten times the anticipated maximum load.
- 7. The total weight of the platform with the load and its rig shall not exceed 50 per cent of the nominal capacity for the hoisting crane's radius and configuration.
- 8. For cranes with pneumatic tires, the use of outriggers shall be mandatory.
- The crane shall be uniformly leveled to less than one per cent inclination, and located on a firm surface.
- 10. The use of booms with freefall is prohibited.
- 11. A boom angle and/or radius indicator shall be available in a place easily visible to the operator.
- 12. **It is mandatory** that the crane have installed a device or system of positive action or a limit switch (anti-block) to avoid contact between the loading block and the boom point.
- 13. The cranes with extension or hydraulic booms shall be clearly marked and equipped with a device that clearly and at all times indicates to the operator the length of the extended boom, or the exact load radius to be used during the hoisting shall be determined before the hoisting of personnel.
- 14. The number of employees on the platform shall not exceed the capacity indicated on the platform identification chart.
- 15. Personnel platforms shall only be utilized for personnel, their tools, and sufficient materials to carry out the job without exceeding its capacity.
- 16. The system shall consist of four slings for platform stability. The clamps shall be secured with a shackle, and it is required that the hook have a safety catch so that it does not open due to the position of its load. Placing a gagger on the hook is not allowed. The sling, shackles, rings, master links, and other rigging equipment shall support, without fault, at least five times the anticipated maximum load applied or transmitted to this component. All sling lifting eyes shall be manufactured with thimbles. The clamps and corresponding rigging for hooking the basket to the hoisting line shall only be used for the basket and not for any other purpose while it is not lifting personnel. "As for the hooking of the four hoisting clamp dogs to only one shackle or ring, keep in mind that the shackle or ring shall have been designed and TESTED for FIVE times the anticipated load. Even though the proposed system of hooking each clamp



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dog directly to the hook seems like an additional safety measure, the purpose of utilizing the ring or shackle is to ensure that the load is equally divided between the clamp dogs. If the sling lifting eyes at the end of the hook are sufficiently big to avoid that the rope jams and there is an uneven load distribution"...the proposed method shall comply with the standards. However, the sling lifting eyes shall have thimbles at both ends. In addition, the slings shall be individually tested, even if the load was tested during the hoist test.

- 17. Each time a crane installation is effected at a new location and before elevating the employees for the first time, a complete hoisting test of the operative cycle shall be performed with two times the proposed weight of the personnel platform. An Operative Cycle is understood to be the carrying of the weighted platform to the lowest or highest point in which the platform work is to be performed. Installation refers to the movement of the crane to a different location, preparing the land, setting the outriggers, etc.
- 18. Immediately following the hoisting test, an inspection shall be made of the crane, the personnel basket, the hoisting clamps, and the basket base support, and any defects found shall be corrected without delay.
- 19. The cranes utilized for the platform hoisting shall be inspected by the operator, and a run with an empty basket shall be made at the beginning of each shift.
- 20. Guide lines shall be used whenever feasible.
- The operator shall remain at the controls at all times while time the platform is carrying personnel.
- 22. The employees on the platform shall continuously remain in the view of, and/or in communication with, the operator or signalman.
- 23. When the platform is placed in a stationary position from which work is to be carried out, the operator shall proceed to activate all brakes and devices to secure the basket.
- 24. Personnel platforms shall not be utilized under strong winds, electrical storms, or other adverse weather conditions which could endanger the employees on the platform.
- 25. The following rules shall be applied when the cranes are moved while elevating personnel.
 - a. While the crane is in motion, it is prohibited to lift personnel, except in the locomotive cranes at the locks, or where the employer can proof there is no other way in which the job can be performed in a less hazardous manner.
 - b. While the crane is in motion and lifting personnel, the employer shall implement the following procedures to safeguard the employees:
 - c. The motion shall be performed over rails or on a firm and stable surface.
 - d. The boom swing shall not be modified.
 - e. The boom shall be parallel to the direction of travel.
- 26. Except when over water, all employees occupying the personnel platform shall utilize a harness secured with his/her fall protector to an anchor within the basket capable to resist an employee's fall impact. **Excluded**, at this point, are personnel utilizing the platform to descend through the locks' center culvert "access shaft", as these platforms have guides or shoes that descend within a reduced space in which a person cannot fall. If the platform is over the water, all personnel shall utilize their floating device.
- 27. Never perform hoists with a crane hook, while there is a basket suspended with another hook.

Design for Personnel Platforms

Personnel platforms shall comply with the following requirements:

- Platforms which are new or in existence shall have been designed or certified by an authorized person. Personnel platforms shall be able to resist without fault at least five times the proposed maximum load. However, the load used for the hoisting tests shall be equivalent to two times the nominal capacity of the work.
- 2. The maximum platform design capacity shall be 6 persons.



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- 3. The platform shall have a visible and permanent plate indicating its nominal capacity in pounds, and the maximum number of people allowed.
- 4. All personnel platforms shall be painted in traffic yellow for easy identification.
- 5. All personnel platforms shall be designed with a system of intermediate and upper handrails, at 21 and 42 inches, respectively.
- 6. They shall have a perimetric protection from the safety footrail to, at least, the intermediate handrail, at a height of 21 inches of expanded metal, whose opening shall not be greater than ½ inch.
- 7. Within the platform's interior perimeter, there shall be a handrail installed to hold on to, at 42 inches from the floor.
- 8. There shall be sufficient space to allow all employees to stand on the platform.
- 9. When employees are exposed to falling objects, in addition to having them wear their safety helmets, the platform shall be equipped with head protection.
 In the event the platforms used (for example, for miter gate restorations) require access through the roof, the hatch access shall open outwardly.
- 10. When necessary, the platform shall be provided with an access door that swings inwardly. The door shall have a lock to prevent it from opening accidentally.
- 11. All edges exposed to contact with employees shall be filed off or trued up.
- 12. All welding shall be performed by a qualified welder.
- 13. All modifications or repairs performed on the basket, no matter how minor, shall be consulted with, and authorized by, a competent person.