



## **Systemic Safety Alert** **Use of Mobile Cranes**

### **Major systemic safety problems**

Most serious accidents related to mobile cranes were attributed to the absence of a safe system of work and slack on-site control. Major systemic safety problems detected include: -

- failure to conduct task specific risk assessment leading to absence of a relevant lifting plan, wrong choice of plant/equipment and improper siting of the crane;
- absence/unclear delineation of safety responsibilities, and ineffective coordination among parties like the principal contractor, lifting contractors and crane owners, all having pivotal role to play to ensure safe lifting operations;
- poor on-site management and control resulting in unsafe mobile cranes entering sites and unsafe lifting practices prevalent on sites;
- failure to designate, zone off and barricade areas for operation of mobile cranes, including lorry mounted cranes, to prevent persons from entering such areas and being endangered by the crane operations on sites;
- lack of competent lifting supervisors to oversee and control lifting operations on site;
- insufficient arrangement by contractors/crane owners to ensure that lifting personnel such as crane operators and signallers have the required competence in terms of knowledge, skills and experience to properly discharge their duties in connection with the lifting operations, resulting in, for instance, these personnel being ignorant about the operating instructions, functioning of safety devices, constraints/limitations unique to a particular crane; and
- improper maintenance leading to degradation of mechanical integrity and malfunctioning of the cranes.



## Accident prevention measures

RSOs should advise their clients/employers to: -

- adopt task specific approach in conducting risk assessments of crane operations;
- devise and implement a task specific lifting plan covering selection of plant/equipment, siting of the crane and other control measures for the lifting operations;
- ensure clear delineation of the safety responsibilities and effective coordination among the principal contractor, lifting contractors and crane owners;
- exercise proper management and control over mobile cranes entering the site, including access control through checking for valid test/examination certificates of the cranes, etc.;
- designate, demarcate and properly barricade the lifting zone;
- ensure that the manufacturer's instructions are adhered to, such as levelling of the crane, outriggers beams and jacks properly extended and the lifting operations are restricted to the specified working ranges;
- appoint sufficient competent lifting supervisors to oversee and control the lifting operations;
- ensure that the lifting team members, including the crane operator and the signaller, are adequately trained and capable of discharging their duties safely in connection with the lifting operation. They should be provided with the required information about the safe system of work relating to the lifting operations, the manufacturer's instructions, functioning of the safety devices and constraints/limitations unique to the crane; and
- ensure that the cranes are checked and maintained regularly to confirm their state for safe operation with the frequency and extent in accordance with the manufacturer's instructions.

RSAs should take into account these systemic safety problems and accident prevention measures in executing safety audit functions.



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