



Systemic Safety Alert **Lifting Operation**

Major systemic safety problems

Lifting operation is a common work process on construction sites and at various workplaces. Unsafe lifting operation can lead to fatal/ serious accidents causing loss of properties or even lives. The following are the major systemic safety problems attributed to the occurrence of the relevant accidents:

- failure to conduct task-specific risk assessments and devise detailed lifting plans;
- absence of or unclear delineation of safety responsibilities and ineffective coordination among relevant parties like principal contractor and subcontractors of lifting operation;
- lack of competent lifting supervisors to oversee and control the operation;
- failure to ensure that all personnel such as crane operators, riggers and signallers have the required competence in terms of knowledge, skills and experience to properly discharge their duties in connection with the operation;
- wrong choice or improper siting of lifting appliances;
- lack of consideration of the characteristics of loads leading to the wrong selection of lifting gear and improper methods of rigging/ lifting;
- failure to designate and barricade restricted areas for the operation;
- lack of effective communication among relevant personnel;
- failure to provide adequate safety information, instruction, training and supervision to all personnel concerned; and
- inadequate maintenance of lifting appliances and gear, including their safety devices.

Accident prevention measures

Registered Safety Officers (RSOs) should advise their employers/ clients to:

- (i) conduct task-specific risk assessments to identify all potential hazards associated with the lifting operation;



- (ii) devise and implement detailed lifting plan with due consideration to the results of the risk assessment. Safety measures to be taken include but not limited:
- select suitable lifting appliances to ensure that their safe working loads (SWL) and specifications are appropriate for the operation;
 - select suitable lifting gear to ensure that the load to be lifted does not exceed the SWL of the gear;
 - select appropriate method of rigging/ lifting to securely and adequately suspend/ support/ secure the load, taking into account its characteristics such as its weight, shape, centre of gravity, and lifting points as recommended by manufacturers (if any);
 - adequately assess the situations of sites/ workplaces, such as the existence of overhead power lines/ other work equipment or structures, trench work and excavation, other lifting operations in the vicinity, the space availability, and allowable bearing capacity of the ground, so as to avoid the proximity hazards;
 - properly fence off lifting zones (e.g. providing fencing or barricades) with suitable warning notices displayed. If it is not reasonably practicable to fence off the lifting zones such as space constraints, effective measures such as deployment of sufficient watch-out personnel should be adopted to ensure no unauthorised entry into the lifting zones;
 - use suitable mats or timber blockings of adequate strength and size capable to completely supporting the floats of cranes to provide a level and firm support with due regard to the ground conditions;
 - ensure that the operators of lifting appliances have a clear view of the full path of lifting and its vicinity, either directly or by means of auxiliary devices such as CCTV, or appoint competent signalers to give effective signals to the operators not having a clear and unrestricted view for the lifting;
 - ensure that no person will have to work under a suspended load; and
 - closely monitor the environment and weather conditions, such as lightning, heavy rain, excessive wind speed and fog, that may occur at the workplace



of the operation, and stop the operation when the environment and weather conditions are unsuitable;

- (iii) appoint a competent and experienced lifting supervisor to oversee and control the lifting operation to ensure that all risks are effectively managed;
- (iv) establish a clear delineation of the safety responsibility and effective co-ordination among all parties involved including the principal contractor/ the proprietor, sub-contractors and owners of lifting appliances/ lifting gear;
- (v) provide effective communication among all persons involved throughout the lifting operation;
- (vi) provide all workers/ employees concerned with the necessary safety information, instruction and training, and ensure that they are familiar with the safe working procedures and safety measures;
- (vii) exercise adequate monitoring and effective supervision to ensure all safety measures are strictly implemented, followed and maintained; and
- (viii) check and maintain lifting appliances and gear, including their safety devices, regularly and properly to ensure that they are in an efficient state, in efficient working order and good repair.

Registered Safety Auditors (RSAs) should take into account these systemic safety problems and accident prevention measures in executing safety audit functions.

DISCLAIMER

This Systemic Safety Alert is issued to draw the attention of interested parties to the relevant systemic safety problems and accident prevention measures necessary to protect people engaging in similar works activities. The material contained in this Alert constitutes general guidance only. It does not reduce, limit, or replace, any legal obligations upon any person to comply with any statutory duties under relevant legislation. Users such as Managers and Supervisors should make their own evaluation of the information contained in this Alert to determine if it can be applied to their own situations and practices. The Labour Department does NOT accept any responsibilities for any loss or damage resulting from the use of or failure to use the information contained herein.