Planning and organizing lifting operations

Lifting operations can often put people at great risk of injury, as well as incurring great costs when they go wrong. It is therefore important to properly resource, plan and organize lifting operations so they are carried out in a safe manner. Each of these elements requires a person or people with sufficient competence to be involved at each step. These people should have sufficient theoretical and practical knowledge of the work and equipment in question, as well as the requirements of the law, to be able to do this properly. For complex and high-risk operations, the planning and organization should be extensive and meticulous.

Planning

The planning of individual routine lifting operations may be the responsibility of those who carry them out (eg a slinger or crane operator). But for much more complex lifting operations (eg a tandem lift using multiple cranes), a written plan should be developed by a person with significant and specific competencies - adequate training, knowledge, skills and expertise - suitable for the level of the task.

For straightforward, common lifting operations, a single initial generic plan may be all that is required (eg fork-lift trucks in a factory), which could be part of the normal risk assessment for the activity. However, from time to time it may be necessary to review the plan to make sure that nothing has changed and the plan remains valid. Routine lifting operations which are a little more complex may, depending on the circumstances, need to be planned each time the lifting operation is carried out.

The plan for any lifting operation must address the foreseeable risks involved in the work and identify the appropriate resources (including people) necessary for safe completion of the job. Factors to include may be any or all of the following:

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| * working under suspended loads | * visibility |
| * attaching / detaching and securing loads | * environment |
| * location | * overturning |
| * proximity hazards | * derating |
| * lifting people | * overload |
| * pre-use checking | * continuing integrity of the equipment |

Strength and stability

Lifting equipment must be of adequate strength for the proposed use. The assessment of this should recognize that there may be a combination of forces to which the lifting equipment, including the accessories, will be subjected. The lifting equipment used should provide an appropriate 'factor of safety' against all foreseeable types of failure. Where people are lifted[1], the factor of safety is often higher. Any lifting equipment selected should not be unduly susceptible to any of the foreseeable failure modes likely to arise in service, for example fracture, wear or fatigue.

Positioning and installation

The position of mobile lifting equipment or the location of fixed installations can have a dramatic effect on the risks involved in a lifting operation. It is vital to take all practical steps to avoid people being struck by loads or the equipment itself during use. The equipment should also be positioned to minimize the need to lift over people. Measures should be taken to reduce the risk of load drift (eg spinning, swinging, etc.); and of the load falling freely or being released unintentionally. Many different methods have been developed to prevent falling loads, including the use of multiple ropes or chains, hydraulic check valves and nets for palletized loads.

When positioning lifting equipment, care must be exercised to avoid hazards arising from proximity, for example: coming into contact with overhead power lines, buildings or structures; coming too close to trenches, excavations or other operations; and coming into contact with buried underground services, such as drains and sewers.

Working under suspended loads

Where it can be avoided, loads should not be suspended over occupied areas. Where it cannot be avoided, the risks to people must be minimized by safe systems of work and appropriate precautions. Where loads are suspended for significant periods, the area below them should be classed as a danger zone, where access is restricted.

Supervision of lifting operations

Supervision should be proportionate to the risk, taking account of the competencies and experience of those undertaking the lift. Many everyday lifting operations do not require direct supervision (eg experienced fork-lift operators undertaking routine lifts), although there may be circumstances where supervisory assistance may be required to manage risk (eg lifting an unusual load, crossing a public road etc).