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"Lifting and loading activities are recognised as high-risk activities in construction, particularly with large, heavy and awkward loads – such as electrical instrumentation control panels or switchroom equipment. Risks include load movement during transportation, falling loads, failure of lifting eyes, damage, ground collapse, crush injuries, and musculoskeletal injuries from improper manual handling techniques. It is crucial to follow a manufacturer's instructions. Prior planning, training, and adherence to established safety protocols are crucial to mitigate these hazards. As for all construction-related activities, safe systems of work must be planned and followed."

(Clare Kelly, Group EHS Manager, Designer Group)



Key Considerations for Safe Lifting & Loading of Electrical Instrumentation:

Building Design - at design stage, there is a need to design building layouts to receive large infrastructure/services such electrical instrumentation control panels/switch room/HVAC systems. This includes consideration of ceiling heights, load bearing characteristics, access and egress routes and the type of lifting equipment required. Ideally, consider use of Off-Site Manufacturing (OSM) or external, skid-mounting.

Equipment Design – manufacturers are responsible for ensuring their products are designed/ manufactured with health and safety in mind, taking steps to eliminate (or minimise) the associated risks for handling and installation. Lifting and loading considerations include the weight of equipment, its centre of gravity (e.g. top-heavy design?), existence/positioning/load-bearing characteristics of lifting eyes, the location of buzz bars spreaders, plinths for lifting equipment, absence of sharp edges etc. Labelling should be clear and legible, with identification of means for lifting (the slinging technique).

Site Characteristics – prior to all lifting and loading, an inspection is required to identify the appropriate form of lifting equipment. The margin of safety for lift equipment must be taken into account. All potential hazards or conflicts should be identified, including but not limited to access and egress, site gradient, load bearing characteristics of the ground, excavations, underground structures, services, overhead electricity or telephone cables and any other potential hazard specific to the work area. Consider the need for restricting access for other activities and personnel for the duration of the lift and loading.

Load Characteristics – check the manufacturer's specifications or shipping documentation for safe lifting. A final transport split drawing is mandatory for delivery of large infrastructure/services. The transport plan should include the layout of gear in the transporting vehicle and space for safe access, fixation of lifting equipment and offload. Selection of appropriate equipment at an early stage will negate potential issues with access, reach, transport and installation.

Administration, Competency, Compliance – all lifting and loading shall be undertaken by competent persons possessing appropriate training, knowledge and experience; this includes Appointed Persons (AP) and others. Requirements generally include the provision

of lift plans, a full risk assessment (RAMS), inspections and completion of GA1 - Report of Thorough Examination, GA2 - Report of Weekly Examination, GA3 - Report of Results of Inspections of Work Equipment for Work at a Height forms, and AP's checklist as appropriate. Supervision is an essential component of all safe lifting and loading activities and vigilance is required for adverse weather conditions. Maintain records of all lifts and share details in the safety file for handover by the PSCS. Any damage to materials, even cosmetic must be reported to responsible persons.

For Further Information:

Health and Safety Authority:

- Load Securing - https://www.hsa.ie/eng/vehicles_at_work/load_securing/
- Transport - https://www.hsa.ie/eng/your_industry/transport/
- Lifting - https://www.hsa.ie/eng/publications_and_forms/publications/general_application_regulations/gen_apps_work_equipment