



Foundation Contractors do their best but Safety co-ordination still inadequate

For many years foundation contractors in Europe have been striving to provide safety in the workplace.

Many improvements have been made, both in the area of materials and in the organisation on the construction site. Foundation plant has improved, so that the operators are less exposed to vibration, noise, extreme temperatures and harmful exhaust fumes. The newer machines are often equipped with technical aids, such as cameras to improve visibility around the machine, lifts along the vertical leader, electronic registration of the verticality of the leader and automatic correction controls as well as hoist and rigging safety measures. Mandatory setup and periodic inspections of the machines ensure technical safety throughout the period of operation.

Foundation construction companies have greatly improved safety practices. Besides mandatory certification, employees are given health and safety training by their employers, while risk analysis, start-up meetings and toolbox talks are the norm.

However, safety must be a primary consideration of everyone on site – and this includes the Client. Despite all the efforts of the sector organisations and foundation construction companies, Client actions (or inactions) still compromise safety, and this is a growing problem.

Planning: Insufficient time is spent on planning the safety of the construction operations. Clients wish to see their investment converted into an end product meeting their requirements as quickly as possible. The local public want to limit the inevitable inconvenience caused by construction sites. This results in tight working schedules and overlapping tasks which raise serious questions about safety levels.

Space on site: Contractors are frequently given a working schedule that is too tight for safety. Creative solutions are found in order to achieve the milestones. These can involve shift work, overtime and merging of activities. Foundation contractors are often asked to arrive with several machines simultaneously at a construction site that is too small to accommodate them. Foundation work may require more than just one crane. Equipment is also needed to deliver materials (precast concrete piles, wet concrete, reinforcement cages, etc.) or to remove material, such as soil. Caterpillar cranes, support cranes, bulldozers, excavation machines, and concrete pumps are extensively used on foundation construction sites. Related operations, such as skimming, levelling and pouring concrete occur in quick succession, or almost 'beneath' the foundation machines, all for the sake of the schedule. But from the point of view of safety (and quality), these are not the best solutions.



Fig 1: a busy site needs top quality safety management and co-ordination

Space around the site: Clients are usually aware of the need for a stable working platform for the foundation construction machines and the personnel around them. Stability of equipment is not only crucial to the safety of construction workers and other personnel on site, but also to the safety of anyone outside the perimeter. Additionally, the work involves lifting and other plant related hazards. Despite precautionary measures, however, accidents still can, and do, occur and more needs to be done to avoid them.

Understandably, residents do not welcome nuisance and disruption. But there must be greater understanding of what is needed for safe execution of the operations. On occasions, streets that should be closed temporarily to allow the operations to proceed safely, remain open. In locations where construction workers are obliged to wear helmets and hearing protection; passers-by are walking on the other side of the fence, close to the rig and without any form of personal protection.

Safety on the construction site is regulated by European legislation. Although some slight differences in national interpretation may exist, the main concern is always the same. Under EU Directive 92/57/EEC - Temporary or Mobile Construction Sites, the client is responsible for the co-ordination of health and safety throughout the operations. This applies to both the design and the execution phase.

In the design phase, the co-ordination is carried out by the Client or by a third party engaged by him; while during execution phase the health and safety co-ordination is often assigned to the main contractor. The health and safety co-ordinator should deliver a safe design and ensure a safe and healthy working conditions during construction on site.



Fig 2: The Public are often walking on the other side of the site boundary without any protection.

The project safety plans that are made in the design phase of the project are often of a very poor quality. In some cases only a few standard risks are written down, without assessing the specific project risks and/or the risks resulting from both the location and the foundation technique being used. This may be partly explained by the designers' poor knowledge of safety issues on site. Safety is a trade for experienced people. Knowledge about safety cannot be acquired without understanding how a jobsite works, how it is run and the procedures that will be executed there. Competent parties should be involved and consulted to fill in these knowledge gaps.

Health and safety co-ordination in the design phase offers an ideal opportunity to influence the health and safety of the employees, the surrounding residents and the people passing by. A health and safety plan is mandatory for construction operations involving risks, and the risks that have been identified will determine the subsequent decisions of the design. Regardless of the technique, safety always plays a crucial part in the determination of both the planning and the availability of the operational area.

It is time for clients and principal contractors to take their legal responsibility seriously and to start making sound risk assessments.

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