



Position Paper on EC Directive 92/57 on health & safety on construction sites

1. Purpose

The purpose of this document is to confirm the EFCA position on the interpretation of EC directive 92/57¹ in respect of its implications for Consulting Engineers.

It is considered to be of benefit to industry and society to provide this viewpoint in relation to the Consulting Engineer's impact on safety and health on construction projects throughout their life-cycle.

2. Legal Background

Directive 92/57 stipulates that:

- a) The *project supervisor* or where appropriate the Client, shall take account of the principles of prevention concerning safety & health during the various stages of designing the project and in particular:
- when architectural, technical and/or organizational aspects are being decided in order to plan the various items or stages or work which are to take place simultaneously or in succession or
 - when estimating the period required for completing such work, taking into account the safety & health plans [Art. 4].

The "*project supervisor*" has been defined as any natural or legal person responsible for the design and/or execution and/or supervision of the execution of the project, acting on behalf of the Client [Article 2.c].

The term "project supervisor" is not clearly defined in the directive and could be construed as a consulting engineer engaged in the design or management of projects. However, in this document it has been interpreted as a person or organization acting as the overall project supervisor on behalf of the client, eg. a project manager.

- b) The client or the project supervisor shall appoint one or more coordinators for safety and health matters for any construction site on which more than one contractor is present [Art. 3, par. 1].
- c) The coordinator for safety & health matters *during the project preparation stage* shall:
- coordinate the implementation of the principles of prevention, and
 - draw up a safety & health plan setting out the rules applicable to the construction site concerned, taking into account the activities taking place on site; this plan must also include specific measures concerning work which falls within one or more of the categories of Annex II [selective presentation from Art. 5].

¹ Council Directive 92/57/EEC of 24 June 1992 - EC Directive on the implementation of minimum safety and health requirements at temporary or mobile constructions sites

- prepare the safety and health file appropriate to the characteristics of the project containing relevant safety and health information to be taken into account during any subsequent works.

Although “project execution stage” is well understood as meaning the construction stage, the “project preparation stage” is not defined and could conceivably be interpreted as any one or more of the following:

- *the design stage*
- *the tendering stage*
- *the stage after award of the construction contract but before commencement of the construction work itself.*

- d) The coordinator(s) for safety and health matters during the project execution stage appointed in accordance with Article 3 (1) shall:
- coordinate implementation of the general principles of prevention and safety when technical and/or organizational aspects are being decided, in order to plan the various items or stages of work which are to take place simultaneously or in succession, and when estimating the period required for completing such work or work stages
 - coordinate implementation of the relevant provisions in order to ensure that employers and self-employed persons apply the principles of Article 6 of Directive 89/391 and follow the safety and health plan
 - update the safety and health plan and the health & safety file to take account of the progress of the work and any changes which have occurred
 - organize cooperation between contractors on the same site, coordination of their activities with a view to protecting workers and preventing accidents and occupational health hazards, and coordinate arrangements to check that the working procedures are being implemented correctly.

3. The situation in practice

- a) Consulting engineers are predominantly responsible for design of the permanent works, on behalf of either the Client or the contractor. They may also be responsible for the design of temporary works² on behalf of the contractor. Consulting engineers may also be involved in the monitoring and contract administration of construction on behalf of the Clients or, in PPP projects, the financing institutions or the concessionaire undertaking the construction and operation of the project. It is also not unusual in some member states, eg. UK and Ireland, for consulting engineers and other design organizations to act as coordinators for the project preparation stage on some projects.
- b) The design of the temporary and permanent works for a project may influence the safety during construction, insofar as design solutions are adopted and/or materials are selected; in addition the design of permanent works may influence the maintenance, use and decommissioning or demolition.
- c) As a result of the national transposition of the Directive, substantial differences exist between responsibilities of consulting engineers set out in Member States’ national legislation.

² e.g. scaffolding for construction of a bridge, temporary supports in tunnel construction, cofferdams for dam construction

Some member states, e.g. Greece, Spain, France, Belgium, the Netherlands and Hungary, require that a safety and health plan be developed during the design stage by the design team and/or coordinator for the project preparation stage – and in most cases without appropriate reimbursement. However, in the design stage the following key elements cannot be known:

- the set up of the construction site
- the construction methods that will be deployed
- the full scheduling of the work, and
- the allocation of work between the contractors and/or subcontractors on site.

Moreover, designers and coordinators for the project preparation stage do not necessarily have the detailed knowledge of the regulations and stipulations for safety and health on construction sites necessary to draw up a comprehensive safety and health plan. As a result, the scope of these design stage safety and health plans to date does not, in many cases, effectively contribute to the improvement of safety or health on construction sites.

In the UK a safety and health plan is only prepared by the project execution stage coordinator (the Principal Contractor in UK legislation). At the design stage the client and designers are simply required to provide relevant information about site conditions, restrictions and design issues critical to safety or health, etc. to relevant parties including the tendering contractors and those who will develop detail designs. The project preparation stage coordinator is required to facilitate and coordinate the identification and supply of this information.

In some member states consulting engineers may also be responsible for the supervision of construction and therefore, in cooperation with the coordinator for safety and health appointed by the Client, for ensuring that the contractor(s) prepare and adhere to a detailed safety and health plan during construction of the project.

4. EFCA's concern

- a) EFCA is primarily interested in promoting the effective use of the Directive in all phases of project development insofar as consulting engineers are concerned.
- b) EFCA is concerned that the role of the designer in relation to application of the directive is not clearly defined. The references to design in article 2(c) which defines the "project supervisor" as being the person responsible for design (acting on behalf of the client) and article 4 which requires the project supervisor or the client to take account of the principles of prevention concerning safety and health in respect of the various stages of designing the project do not reflect the usual contractual roles and responsibilities. See annex 1 for further details regarding the legal background and annex 2 for details of the situation in practice.
- c) EFCA is particularly concerned that in some member states the obligation of designers and the coordinator for the project preparation stage (a role for which a consulting engineer may be appointed) for the compilation of safety and health plans in the design stage results in plans that may be assumed to be comprehensive but which in fact do not adequately reflect the conditions or management requirements on the construction site, thus contributing to a false sense of safety. In addition, important information that should be communicated to contractor(s) on risks that they cannot reasonably be expected to know or deduce from the documents prepared for the project may be significantly diluted in such comprehensive safety and health plans. Moreover, EFCA is concerned that such a practice may result in

consulting engineers acquiring liability for safety and health on site that they do not in effect control.

5. EFCA's Recommendations

- a) In order to ensure the appropriate application of Directive 92/57 in practice, its terminology should be clarified. In this respect EFCA proposes that:
- The *project supervisor* is defined as a person or organization acting as the overall project supervisor on behalf of the client, eg. a project manager.
 - The *project preparation stage* is defined as the period from the initiation of the project until the actual commencement of construction work, i.e. including the design and construction tendering phases, as well as the period after the award of the construction contract and prior to initiation of construction activities (construction preparation phase).
 - The *project execution stage* is defined as the stage during which construction work takes place.
- b) Consulting engineers engaged for the design of permanent or temporary works should ensure, so far as is reasonably practicable, that the designs they produce can be built, used, maintained and decommissioned or demolished safely and without risk to health. To this end, EFCA recommends that designers should clearly set forth in their design documents the key issues related to safety and health during project construction, maintenance during its life cycle and eventual demolition, including:
- residual identified risks which are significant and unusual in the context of the type of project proposed
 - design assumptions that are critical for the safety of the construction, and
 - design assumptions that are critical for the safe maintenance and/or demolition.
- Consulting engineers responsible for the design of the project (or, for that matter, the safety and health coordinator for the project preparation stage) should not be required to compile a health & safety plan during the design phase of the project.
- c) EFCA recommends that consulting engineers who are appointed as project supervisors or safety and health coordinators for the project preparation stage should ensure that the safety and health coordinator for the project execution stage compiles a detailed safety and health plan prior to the commencement of the project execution, taking into account the input from the designer(s) of the project.
- d) In any event, EFCA deems it necessary that, in the context of engagement of professional services, Clients should appropriately reimburse the persons or firms who undertake to compile health & safety plans.
- e) In order to improve the public awareness of safety and health on construction sites, EFCA recommends that Clients should be required to disclose the number and nature of accidents taking place on the sites of major projects on a project and/or an annual basis.
- f) In order to improve the safety and health track record, feedback on safety and health problems which should have been foreseen during the development of the design is given to the consulting engineers that were responsible for the design - particularly if they are not present in the construction phase of the project.

**Prepared by the EFCA Working Party on Directive 92/57
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Annex: Detailed recommendations

EFCA has the following comments on the allocation of responsibilities and obligations in regard to health & safety at construction sites:

- a) Since the design of works may influence the safety during construction, maintenance and demolition, consideration of safety should be an integral part of the design process at its various stages [ref: *Designing for Safety in Construction*, EFCA & ACE, September 2006].
- b) Consulting engineers engaged for the design of permanent or temporary works should ensure, so far as is reasonably practicable, that the designs they produce can be built, used, maintained and decommissioned or demolished safely and without risk to health. They should consider the constructability of their design in all stages of construction³ and take account of the principles of prevention for safety during construction, as required by the Directive. In particular, consulting engineers should, in so far as is reasonably practicable:
 - identify the associated key construction hazards and risks, for each design feature/option, considering the general characteristics of the methods that might be used by the contractor in their construction/execution
 - seek, on the same basis, to “design out” those risks that can reasonably be avoided, i.e. eliminating them by adopting alternative design solutions
 - assess, as best as possible, those risks that remain and then mitigate them as far as reasonably practicable by “combating at source”, i.e. reducing their probability of occurrence by appropriate selection of materials and details (rather than relying on protective measures to be taken on site), and
 - in due course, facilitate, as far as reasonably practicable, other protective measures (e.g. installing temporary running lines) being taken on site by contractors.

As the design progresses from concept to detail, consideration of safety issues moves from general aspects to specific aspects; the most important contribution that a designer can make is usually at the concept and early design development stages of a project when project-wide and system hazards are being considered.

- c) Designers should clearly set forth in their design documents the key issues related to safety and health during project construction, maintenance during its life cycle and eventual demolition, namely:
 - information about site conditions and restrictions,
 - the construction stages envisioned, if construction is staged
 - the construction methods envisioned, where they are not readily discernible from the drawings and specifications
 - residual risks which are significant and unusual in the context of the type of project proposed
 - design assumptions that are critical for the safety of the construction, and
 - design assumptions that are critical for the safe maintenance and/or demolition.The residual risks and the critical design assumptions for maintenance, alteration and demolition work should be included in the safety and health file for future use.

³ e.g. design the temporary supports for tunnel construction, cofferdams for dam construction.

Consulting engineers responsible for the design of the project (or, for that matter, the safety and health coordinator for the project preparation stage) should not be required to compile a health & safety plan during the design phase of the project.

- d) The responsibilities of the safety and health coordinator for the project preparation stage during design should include:
- Co-ordinating the consideration of safety and health issues during the design in respect of the construction, use, maintenance, repair, alteration and dismantling or demolition of the project.
 - Ensuring that information regarding safety and health issues identified during the design stage (or in the preliminary stage for design and build projects) relevant to the construction of the project is included within the tender documents.
 - Advising the Client about the above and regarding the ongoing issues of safety and health during the projects life cycle.
- e) In the case where more than one contract will be procured for the construction of a project (parallel tendering), which will result in more than one contractor operating simultaneously on the site for certain periods, the client or project supervisor should define the coordination requirements applicable for each contract.
- f) Tendering contractors should be required to include a draft safety and health plan addressing the issues defined by the safety and health coordinator in the tender documents, taking into account, inter alia:
- the planned set up of the construction site
 - the foreseen scheduling of the work on site and hence the activities that will be taking place on site at any given time
 - the allocation of work between the contractors and/or subcontractors on site
 - the residual risks that the consulting engineer(s) have identified pursuant to the previous paragraph
 - the construction methods foreseen for construction of the project and any other risks associated with them, and
 - the measures and procedures for reducing the hazards from the above risks.
- g) The safety and health coordinator for the project execution stage should be appointed at the start of the construction preparation phase (i.e. in advance of the project execution stage) and should be responsible for the drawing up of an adequately detailed safety and health plan, taking into account the comments and instructions of the safety and health coordinator for the project preparation stage. This safety and health plan should be a live document which is updated during the project execution phase as and when additional information becomes available and additional requirements are identified.
- h) Consulting engineers who are appointed as project supervisors or safety and health coordinators for the project preparation stage should ensure that the safety and health coordinator for the project execution stage compiles a detailed safety and health plan prior to the commencement of the project execution.

Moreover, consulting engineers who are appointed as project supervisors should, in cooperation with the safety and health coordinators for the project execution stage, ensure that the contractors adhere to the detailed safety and health plan and, where necessary, that the safety and health coordinator for the project execution stage reviews and updates

this document in line with any design changes, additional information or other developments during the project execution stage.

- i) The safety and health coordinators for the project preparation and project execution stages should work together to ensure that the client is provided with a comprehensive safety and health file including relevant design information, operating and maintenance manuals and as built record information.