



LEGAL BULLETIN



Co-ordination of Building Services Design Drawings by M&E Contractors

by
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I have lost count of the number of occasions on which I have been asked to advise on a services sub-contractor's responsibility for co-ordinating its services with the services of others and with the structure of the building.

The responsibility of a services contractor for co-ordination, and in some case, for the production of co-ordinated installation drawings, becomes less clear when the express terms of the contract require it to check the design drawings produced by the services engineer in circumstances where the design drawings are described as "fully co-ordinated" and/or "approved for construction".

In the relatively recent case of **Emcor Drake & Skull Limited v. Edinburgh Royal Joint Venture & Others**, the Court of Session in Scotland decided, as a matter of principle, that design drawings produced by a services engineer and described as "*fully co-ordinated and approved for construction*", did **not** necessarily mean that the services contractor was not required to develop the design drawings any further before issuing them to its installation operatives.

As a result of irreconcilable differences between the Joint Venture and another services contractor, the Joint Venture engaged Emcor to carry out Phase 2 of the electrical installations at the New Royal Infirmary and Medical School in Edinburgh

The Sub-Contract expressly stated that Emcor was **not** responsible for the design of the electrical installations. Nevertheless, Emcor decided to qualify its tender with the following words:

"1.01 Our bid has been prepared on the understanding that the vast majority of Tender Drawings received are fully co-ordinated and approved for construction".

A dispute arose between the parties as to the meaning and effect of these words and this was referred to the Court for determination as a preliminary issue.

Emcor argued that by inserting the words quoted above in its bid, it was entitled to assume that the tender design drawings had been developed to such an extent that they could be issued to its installation operatives on site without any further development. Emcor stood to lose over £4 Million which it alleged it had incurred as a result of the drawings not being fully co-ordinated and approved for construction.

In his judgment, Lord Drummond Young commented on the nature and inter-relationship of building services on projects of similar complexity to that at the New Royal Infirmary and Medical School in Edinburgh and with specific reference to that project, referred to the distribution of the services, including lighting and power cabling, plumbing and drainage, heating and ventilation, fire alarm and emergency lighting systems and their distribution through the corridor ceiling voids of the building.

He decided that the first stage in the co-ordination of service drawings involved the services engineer indicating on the mechanical and electrical design drawings how each of the different services were to be distributed and connected to each other and to the building. This required the services engineer to carry out some degree of co-ordination, by showing on the drawings how the services run alongside each other, so as to ensure that there is sufficient space in the ceiling voids to accommodate **all** the services.

This first stage was reflected in the Sub-Contract between the Joint Venture and Emcor which provided that when producing the design drawings the services engineer would “*spatially co-ordinate the services with the structure*” and would show on the design drawings the “*spatial co-ordination of primary service distribution routes with the building structure*.”. What is not shown in those design drawings, however, is the precise interaction of the various services as they run alongside one another.

Lord Drummond Young then referred to a second stage in the co-ordination of service drawings which occurred after the services engineer had produced the design drawings. This imposed on each of the various services sub-contractors the requirement to co-ordinate the work of installation in detail. This involved defining the precise routes taken by the ducting or piping for the different services in such a way as to avoid any clashes, the organisation of junctions in such ducting or piping, and the manner in which one service may pass over or under the other services at such a junction. It is only when these detailed working drawings are produced, identifying where the service is to run, its height and the components to be used such as bracketry and other fixings, that they become detailed working drawings and are capable of being used by the installation operatives on site.

He then went on to decide that the design drawings provided to Emcor at tender stage had been developed to such an extent that they could be described as having been “approved for construction”. However, it was not in dispute that any competent electrical engineer who examined these drawings would have concluded that they were only design drawings and not detailed working drawings. This was because they lacked invert levels, fixing points for bracketry and failed to indicate how access points to adjacent services would be preserved.

Lord Drummond Young decided that the expression “fully co-ordinated” effectively meant only partially co-ordinated and therefore only referred to the first stage of the co-ordination of services. He also decided that the expression “approved for construction” meant that the drawings had attained final release status and that Emcor was still required to develop the drawings into detailed installation/working drawings.

The decision in the Emcor case was, like most cases, decided by reference to the terms of the Sub-Contract and to a lesser extent, on its own particular facts. It was an express term of the Sub-Contract that Emcor would check any design drawings provided at tender stage for the purposes of the Sub-Contract. This express provision was inconsistent with the argument Emcor advanced in the court proceedings that the main contractor had warranted that the design drawings provided at tender stage, or any drawings for that matter, did not require any further development so as to ensure that the electrical installation co-ordinated with the services being installed by the other sub-contractors.

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