

**LEGAL LIABILITY FOR DESIGN AND
CONSTRUCTION DEFICIENCIES**

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Notes

"In Germany, under the law everything is prohibited except that which is permitted. In France, under the law everything is permitted except that which is prohibited. In the Soviet Union, everything is prohibited, including that which is permitted. And in Italy, under the law everything is permitted, especially that which is prohibited."

The foregoing quotation credited to Mr. Newton Minow, former United States FCC Chairman, on concluding a study of the legal systems of four European countries, gives testimony to the confusing tangled web of construction relationships which arise out of design/build project delivery systems, with their resulting chaotic liability implications for the various parties to the process. This paper will attempt to discern the legal liability position of the major parties to the design/build process and, in particular, focus upon the design/build contractor's responsibility for construction deficiencies.

The writer believes that the inherent nature of the design/build process will operate to better clarify and define the design/build contractor's responsibility for construction deficiencies vis-a-vis the owner who heretofore has had to seek his legal remedies in a veritable maelstrom of finger-pointing between construction contractors and project designers, each blaming the other for construction deficiencies which typically leave the owner with something less than he expected to receive at the inception of the design/build relationship.

When reviewing legal liability for construction deficiencies in the design/build context, it is necessary to review the basic concept behind a design/build construction contract. This can best be accomplished by comparing it to a traditional construction contract. The traditional contract involves a three-party arrangement between an owner, design professional and contractor. The owner hires a design professional to design the structure and then the contractor to

construct the project according to the design plans and specifications. In so doing, the owner warrants the sufficiency of the plans and assumes any liability for defects for them vis-a-vis the contractor. The contractor is then responsible for defective construction and workmanship, but is free from any liability for design defects. The design professional, while responsible for design, does not assume any liability for defective construction, other than for his failure to detect such defective construction as should have been obvious to him through the course of his field services rendered during the construction operations.

By contrast, in a design/build contract, the owner enters into a single agreement by which the contractor agrees to perform both the design and construction of the project. In some instances, the contractor may also agree to be responsible for acquiring land, financing the project and leasing the finished structure. This more involved arrangement is termed a "turnkey" contract. In either a design/build or turnkey arrangement, the contractor's objective is to satisfy the owner's broad performance specifications rather than to adhere rigidly to the design/professional's plans and specifications. As well as being responsible for faulty workmanship in construction, the contractor is also liable for any defects or deficiencies in design under this arrangement.

In the turnkey or "package-deal" or design/build arrangement, the owner may find it convenient to engage a third party professional advisor to advise on the design offered by the design/build joint venture of the contractor/engineer at the pre-contract stage, and perhaps to supervise construction to ascertain compliance with the design. Often, this third party may also be required to make valuations for the purpose of determining interim payments under the design/build arrangement. It is often thought necessary to engage such a third party (be he project manager, engineer or quantity surveyor) because of the inherent conflict of interest that pertains when a single entity, the design/builder, is responsible for the total package of design and construction on behalf of the owner, with no one to protect the owner's best interests.

Because of the dual responsibility inherent in the design/build method of project delivery for both design and construction workmanship and materials, the design/build contractor no longer has the luxury of pointing to the design or project specifications as a means of deflecting responsibility from himself. Indeed, the design/build contractor with his newly acquired responsibility for both the design and construction aspects inherent in this project delivery system, now provide a single point of focus for the owner in the event of failures resulting in hazardous construction, equipment failures, workmanship defects, design errors or omissions or failure to meet design criteria in construction operations.

The general contractor's viewpoint in the design/build process involves two basic perspectives. The first, is the perspective of the builder in the design/build entity. The general contractor can be the design/build entity by itself and subcontract the design work to professional designers. The general contractor can also be a partner with a professional designer in a design/build entity, generally in a joint venture arrangement. In either of these arrangements, the general contractor assumes some or all of the risks of the design/build entity. In many respects, these risks are significantly different from the risks general contractors normally assume when they contract with owners to construct a project.

There are numerous benefits to an owner in a design/build arrangement. First and foremost is the ability of the designer and the contractor to work as a team. Working together during the design process, they can review the design as it proceeds in terms of constructability and costs of construction. That working relationship is also beneficial when problems develop during construction. Because the design and construction responsibilities exist in one entity, the designer and the contractor should be able to focus upon solutions to problems instead of seeking to assign liability to one another for resulting extra costs.

This process leads to a fast-track approach to construction. The design/builder can proceed with construction as incremental portions of the design are completed

with a greater sense of confidence that serious problems and the need for significant changes will not occur. When this process works as anticipated, the project is completed faster and at less cost.

The most distinctive part of the general contractor's view as it relates to the design/build process is the matter of control of the process and associated risks. In circumstances where the general contractor is a partner with the designer in a design/build entity, or where the general contractor is the design/build entity and subcontracts the design work, the general contractor's ability to manage and control the design process is critical to avoidance of risk.

The major underlying risks to a design/build contractor arise from his time of completion and price of performance commitments to the owner. While these commitments vary from project to project, generally the design/builder makes some sort of commitment with regard to time and money that can be significantly affected by the design function.

The designer's function can greatly affect time, and therefore money, because of a number of factors. The design function by its nature is a creative process. Beyond that, the designer's ability to perform this creative process is affected by its traditional responsibility to work with the owner in order to understand and determine the owner's needs and desires. Delays which occur because of additional time needed for the creativity involved, working with and satisfying the owner, and then working with the general contractor portion of the design/build entity to value engineer the design, can have severe consequences on the overall success of the project.

Thus, it is critical for the general contractor who acts as a design/builder to take adequate steps ahead of time to ensure that time and money problems are not made inevitable during the design phase of the project. Because design/build

contracts are put together in various ways, these time and money risks can be a function of the type of arrangement reached for the design/build project.

A critical consideration for the general contractor involved in the design/build process is agreement upon how risks and losses will be shared ahead of time. The first line of attack is with the owner. The more the general contractor acting as a design/builder can limit its risks to those which it is traditionally accustomed to undertaking as a general contractor, the better off it will be. The risks which the general contractor traditionally takes on include the duty to construct the work according to contract documents prepared by the designer, codes, bylaws and good construction practices. Failure to meet any of these obligations will result in almost certain liability accruing to the design/build contractor. Additionally, failures in equipment supplied by the design/build contractor will also result in certain liability since the contractor is liable for the fitness and quality of all materials and equipment supplied to the project, whether pursuant to an owner-inspired performance specification or not. By the same token, defective workmanship of the design/build contractor will almost certainly result in liability accruing to that party.

In addition to the above, the major expansion of risk undertaken by a general contractor in the design/build process is the extent to which the general contractor becomes liable for design error. This exposure can be limited in a number of ways. They include:

1. Limitation of liability in the agreement between the owner and the design/builder to the amount of professional liability insurance coverage;
2. Agreement by the owner in the agreement between the owner and the design/builder that the owner is a third party beneficiary of the contract between the design/builder and the designer and that the owner shall limit its recovery for design errors to recovery against the designer;

3. Execution of a three-party agreement between the owner, design/builder and designer whereby the owner has direct rights against the designer and limits its recovery for design error to recovery against the designer.

Traditionally, most design/build contracts give to the design/build contractor sole responsibility for all construction means, methods, techniques, sequences and procedures of construction. As a result, the design/build contractor will be deemed to have breached its contract and its duty if any of these responsibilities ultimately result in a failure to meet the owner's performance specifications or the contract documents prepared by the designer and which were agreed upon by the owner at the inception of the design/build contractual relationship. A design/builder may also be held to be in breach of contract by failing to properly conduct periodic inspections to ascertain that all work has been performed appropriately.

In one other area, the design/builder may achieve some measure of limitation of liability. This is the area related to subsurface conditions and the liability for the accuracy of subsurface investigation reports. Since subsurface investigation reports are prepared by independent consultants, the design/builder does not want to assume legal responsibility for the accuracy of these reports any more than architects want to assume liability for the accuracy of such reports in conventional projects. By arranging to have these reports prepared by outside consultants directly for the owner, or agreeing to contract language in the agreement between the owner and design/builder that have the same effect, the general contractor acting as a design/builder can avoid exposure in another area which it is not accustomed to undertaking.

Certainly, other matters such as delay in design could be handled in a similar fashion. However, they may be more difficult to isolate from a practical perspective. Additionally, the general contractor may find it difficult to get the owner to agree to limit its liability for design defects in this way, particularly if

one of the reasons why the owner has elected to use the design/build method is because of the benefits of contracting with only one entity for both the design and construction functions. It may therefore be difficult to convince the owner to separate out other items which are based on fault of the designer.

The general contractor's choice as to how to share risks and losses may be dependent upon its experience with the designer. If they have an excellent relationship, they may choose to share risks, losses and profits on the same sort of percentage basis, accepting the fact that neither will perform perfectly, but believing that neither will perform so inadequately as to warrant the division of risks and losses based upon actual performance. This sharing of responsibility and risk by the general contractor and designer may lend itself to a joint venture agreement, although the parties can specifically agree to share responsibility in a subcontractor (subconsulting) arrangement as well.

Alternatively, the division of risks and losses on a fault basis may be warranted because of unfamiliarity between the general contractor and designer. However, this approval undermines the psychological benefits of working as a team without the need to focus upon relative fault. Nevertheless, this arrangement is almost dictated by circumstances where the owner insists that the general contractor, acting as a design/build, utilize a particular designer. The situation may be one in which the designer has strong loyalties to the owner and the general contractor does not have any experience of working with the designer.

In addition to the undermining effect which dividing responsibility based upon fault can have on the design/build team, the process of dividing responsibility may present other problems. Some, like unforeseen circumstances, may be the fault of neither the general contractor nor the designer. Nevertheless, the design/build may have financial responsibility for the consequences of these unforeseen circumstances.

Depending upon whether the general contractor is in a joint venture agreement with the designer or has subcontracted the design work to the designer, the contractual arrangement may speak to which party or parties have responsibility. For example, if the designer is a subcontractor and the unforeseen circumstances have nothing to do with the design, the general contractor may be left with all of this liability unless the parties agreed to the contrary beforehand.

Some of the types of subjects which the parties need to address beforehand in terms of how to divide responsibility for risks, losses and profits are the following:

1. Accuracy of reports, such as subsurface condition reports prepared by outside consultants;
2. Design error;
3. Overrun in design budget;
4. Delay in design;
5. Time and cost overruns due to performance by the designer's consultants;
6. Time and cost overruns in design caused by the owner;
7. Acceleration costs to bring the design within the design schedule;
8. Construction defects;
9. Overrun in construction budget;
10. Construction cost overruns due to estimating errors;
11. Delay in completion of construction;
12. Acceleration costs to bring the construction within the construction schedule;
13. Discovery of hazardous materials on site;
14. Force majeure which results in time and costs overruns;

15. Unforeseen site conditions which are not the owner's contractual responsibility;
16. Owner's refusal or failure to pay;
17. Indemnification for performance and labour and material payment bonds;
18. Carrying costs associated with fulfilling unwarranted demands of the owner until recovery is obtained;
19. Liability to subcontractors resulting from design defects;
20. Cost overruns resulting from subcontractor or supplier default;
21. Insurance obligations;
22. Indemnification obligations in the contract;
23. Fees and expenses for pursuing claims.

Responsibility for many, if not all of these items of risk can be agreed upon and covered by contract language beforehand as between the general contractor and designer involved in the design/build entity, and as between the design/build entity and the owner.

Because design/build has only gained prominence as a project delivery system in recent years, contractors need to remain aware that the law is evolving and varies from jurisdiction to jurisdiction. Clearly, the general liability of the design/build contractor includes the classic implied warranty of fitness and quality of every aspect of the workmanship, materials and equipment supplied to the project by the design/build contractor, and unless appropriate language is inserted in the contractual relationship between the owner and the design/builder, potential liability for design errors and omissions may accrue to the design/builder beyond the test of reasonable means which is otherwise employed in cases involving design professional responsibility. Typically, however, most design/build contractual arrangements will provide that responsibility for the design components of the design/build contract will be limited to the test of due care,

skill and diligence of the design team according to the state of the art of their profession at the time that the professional services were rendered.

In general, therefore, the design/build contractor must be aware of the fact that entering into a contractual delivery system which includes the supply of the design element along with workmanship, materials and equipment, will move the contractor beyond his typical performance obligations which formerly only required the contractor to comply with plans and specifications and, in the process, provide certain express and implied warranties relating to specific products in the project and the project as a whole. Now, in association with the design component, a design/build contractor will now also be responsible for design which traditionally has been performed, as indicated above, according to a professional negligence standard, rather than a guarantee/warranty standard common to the provision of pure construction services.

In dealing with design/build industrial plant projects, a design/build contractor will have the traditional legal responsibility for the design, construction, quality, structural soundness, durability, suitability and satisfactory performance of the complete work. This will usually involve a single comprehensive contractor for the entire project. Under such an arrangement, the design/build contractor will be responsible for the design and suitability for the intended purpose of the project as a whole. It is also possible under these arrangements for the owner to employ independent design professionals in order to obviate the conflict of interest problem where the design component of the design/build entity has a business or commercial relationship with the construction component. In addition, the owner may have its own in-house technical employees, which would leave the design/build contractor responsible only for completion of the work in strict accordance with the owner's or his independent design and specifications, and not, in the absence of poor workmanship or materials, for its subsequent performance or suitability after completion.

Owners may also wish to retain a right, by one means or another, to select specialist subcontractors or suppliers or sources of plant or machinery, for example, and in such cases the exact allocation of the design responsibility for that part of the project as between owner, contractor and subcontractor or supplier, will depend upon the express provisions of the design/build contract in question. In principle, there is nothing to prevent owners from obtaining overlapping express design responsibilities from more than one person, as for example, by obtaining direct contractual guarantees from selected subcontractors or suppliers or manufacturers, as well as an unqualified design or performance obligation from the principal design/build contractor.

Coordination is also often another problem on industrial plant projects. What arrangements should be made for the coordination of the various construction or supply elements involved in the project? Quite apart from any question of the design arrangements, should there be one comprehensive contractor or should the project be subdivided into separate direct contracts with the owner, with the owner responsible for coordination, either through his own organization or by employing his own design professionals? There is no doubt that if the design/build contractor takes responsibility for coordination, then he will be fully responsible to the owner for coordinating the design and construction operations through the various subconsultants and subcontractors or providing the owner with the finished plant within the time and budgetary constraints provided by the design/build contract.

In contracts for plant and machinery, unless a class of design professionals is available in the market to assist an owner, design services for at least some parts of a project will, as a commercial reality, require to be obtained from a manufacturer, supplier or specialist contractor. Therefore, the layout and machinery and equipment of a steel plant is often likely to be both designed and supplied by an experienced industrial manufacturer with a proven record of success. If an engineer, for example, enters into a joint venture relationship with

such a supplier or manufacturer, then he will, in the design/build contractual arrangement with the owner, bear joint and several liability with his joint venture partner supplier/manufacturer for supplying a product which is fit for the purpose for which it is intended and for warranting the success of the overall project. In such a case, in the absence of express contractual provisions to the contrary, it will be the essence of the manufacturer's or supplier's legal responsibility that he will in such a situation, independently of any question of fault on his own part, impliedly warrant his product's suitability for its required purpose. That the engineer should become jointly and severally liable for such an obligation beyond his own normal legal obligation to use all reasonable care, skill and diligence known to the state of the art of his profession at the time that his services were rendered, is indicative of the far greater liability exposure that pertains in design/build arrangements for the designer.

Where an owner may have independent advisors to assist him in preparing detailed outline specifications and drawings showing the owner's requirements for the project, this will still not affect the suppliers and therein the design/builder's implied design and suitability obligation to produce a design or project meeting those requirements, and certainly should not be allowed to affect the express design obligations undertaken in such a contract or subcontract. In effect, the design/builder's design obligation is exactly the same as that of the seller or supplier of goods upon whose skill and judgment the purchaser has relied. This involves far greater legal responsibility than that taken on in a typical contractual mandate by a designer dealing directly with his client.

To conclude, the commonly heard refrain from contractors involved in construction claims that the source of a construction problem or deficiency lies with the design prepared by an architect or an engineer will undoubtedly be heard less and less as design/build contracts become more common-place. The concept of design/build envisages total responsibility for both construction and design, and thereby removes this convenient contractor's lament. This will serve to heighten

the focus on deficient construction and lessen the opportunity for debate between the owner and the design/build contractor over the source of and final responsibility for construction deficiencies.

Notes