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Risk Management Tools for the Design Professional

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Integrated Project Delivery: Changing the Insurance Landscape

By Frank L. Pohl, Esq. and James C. Washburn, Esq.

With more project owners demanding the use of Building Information Modeling (BIM), project delivery is necessarily carried out through greater contributions of design input by the general contractor and the major trade subcontractors. The design professionals are no longer the sole authors of the project design. This collaborative project delivery method has been called integrated project delivery (IPD). The contribution of design input from each of the various project players using IPD is a significant break from the traditional division of responsibility recognized in the standard design-bid-build project delivery method. Players who never participated in the project design now face potential risk of professional liability. Additionally, the new, cutting-edge technologies being used for BIM expand the types of risks born by the design professional if there are errors and omissions within the computer modeling system or the improper management of the computerized data.

What is BIM?

BIM involves computerized design software tools that help create a model that reflects all of the building components' geometric and functional qualities. The general contractor and trade subcontractors provide product-specific information for building components and that data is inputted into the model, including performance specifications, connection details and cost data. However, the model is more than a mere representation of the design in a three-dimensional computer graphic. Embedded within the design programs are rules that define each of the components' relation to the other components.

The model is dynamic: if there is a change to one component, then the computer program would automatically and immediately revise the design to accommodate the ripple effect caused by the change. During the pre-construction phase, the project team can input different design options to facilitate value engineering and budgetary decisions, material estimation, and even long-term maintenance costs of the facility. In theory, assuming that the information provided by the various project players is accurate and the rules embedded in the model are correct, BIM should reduce errors and omissions, resulting in an aggregate reduction in professional liability and errors & omissions claims. Additionally, it should reduce the demand for change orders during the project, as the design should have fewer ambiguities and inconsistencies. However, if the assumptions embedded in the computerized model prove false, the result would be a costly problem that all concerned should hope is covered by insurance.

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Increasing Industry Acceptance

IPD using BIM technology is becoming more prevalent with many predicting that it will become standard. The U.S. General Services Administration's (GSA) Public Building Service now requires BIM for submission to the office of the Chief Architect on all capital construction programs receiving design funding. One reason for the adoption of BIM was a lack of GSA staffing to review design documents and to ensure conformance to building standards. Additionally, GSA was concerned with anticipated sustainability goals for federal buildings with respect to energy efficiency and long-term maintenance costs. GSA sought to rely upon the new BIM software tools to provide solutions to these problems. The GSA is not the only project owner to use IPD using BIM technology. General Motors has constructed at least six projects using this delivery method. Also, the increasing use of BIM is further evidenced by the adoption of a National Building Information Modeling Standard issued by the National Institute of Building Sciences, as well as, industry recognition such as the AIA Technology in Architectural Practice's presentation of annual BIM Awards. The expected industry trend is that this delivery method will not be reserved only for complex projects, but rather will start being used for simpler projects on a wider scale.

Evolving Contractual Relationships

The construction industry is only beginning to catch up with the contractual liability issues that arise from the non-traditional roles played by the various project participants. In 2008, there was the release of the ConsensusDOCS 300 Series for use on IPD projects using BIM technology. Those documents have since been updated in 2011. Also, the American Institute of Architects (AIA) has developed IPD Agreements AIA C196-2008 Standard Form of Agreement between Single Purpose Entity and Owner for Integrated Project Delivery and AIA C197-2008 Standard Form of Agreement between Single Purpose Entity and Non-Owner Member for Integrated Project Delivery. The AIA contractual agreements incorporate a separate Exhibit (AIA Document E202 – 2008) that might also be used with their other, more traditional contract documents on IPD projects using BIM technologies. These AIA documents allow the parties to define the standard of care for BIM, as such would be difficult to define given the short history of this technology. They also attempt to allocate responsibility for managing the computer model, e.g. data storage, transferring model files, granting and withholding access to model files, validating completeness and usability of files, among other things. Also, the Exhibit provides a chart listing standard building components that is to be filled out by identifying who will author each listed element of the model design. These contractual means of defining the standard of care and allocating responsibility may impact a design professionals' liability for professional negligence.

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Professional Liability Concerns for General Contractors and Trade Subcontractors

The collaboration of general contractors and trade subcontractors in the design on IPD projects may result in liability exposure arising from errors in each parties' contribution that result in defects in the project design. Accordingly, these parties must approach the IPD similarly to a design-build project and obtain professional liability coverage. Moreover, the general contractor must recognize that it would face contractual liability to the owner for the errors contributed solely by its subcontractors – errors which could be very difficult to detect by the general contractor. Thus, the general contractor would be well advised to demand in its subcontracts that those subcontractors who contribute to the project design obtain coverage. Yet, the specific type of coverage that expressly contemplates the allocation of responsibility and risk inherent in IPD may not yet be on the market.

Expanded Liability Concerns for Design Professionals

The consensus seems to be that IPD using BIM technology will result in an overall reduction in design errors. Yet, to the technophobe, an over-reliance on computer models with decreasing human over-sight could also spell disaster. What responsibility should the design professional have for errors in the data inputted by the various parties? What if there are errors in the rules imbedded in the model or the internal mechanisms for transferring data or any other number of possible computer glitches? The contract with the company creating the modeling software likely limits liability for such errors to an amount far less than the damage that could be created by the error. The design professional must consider insuring that gap. To address these questions and issues, the design professional should discuss the potential IPD exposures and to what extent they are insured for same with their broker.

IPD not only requires additional contributions to design from the contractor, but may also involve greater involvement by the design professionals on the construction side. Design professionals may find themselves more active in the development in the means and methods of construction given the overall integrated approach on these types of projects. "Means and methods" are often excluded in professional liability policies. This raises the question of whether the design professional should purchase general liability insurance to cover damages resulting from negligent construction practices.

Changing Relationships?

IPD using BIM technology is changing the relationships between the various players on such construction projects. As a result, the standard construction contracts and their allocation of responsibility and risk may no longer be equitable or reflect reality. Accordingly, before participating in this type of project, all parties should consult with their attorney to review their contracts to address these issues. In addition to the need for revised construction contracts for these types of projects, all parties are strongly advised to meet with their insurance brokers and discuss the new risks arising from this project delivery method.

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