

Design Responsibility in Integrated Project Delivery: Looking Back and Moving Forward

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A. Introduction

Integrated Project Delivery ("IPD") is an approach to project delivery in which major project participants (minimally, the owner, design professional and constructor, and, potentially, lower-tier participants) execute a single contract under which they agree to collaborate in the design development process and, to a degree, share the economic risk associated with defective design.¹ IPD is generating a significant amount of interest and sense of promise among owners, design professionals, and constructors.

One of the more important issues is whether or not the collaborative design component of IPD should extend to a collective final project design responsibility—beyond the design professional (and its engineering consultants). This "design responsibility" issue and the associated contractually-prescribed and defined risk sharing for the economic consequences of defective design continues to be discussed and debated at design and construction industry conferences in the context of developing, and negotiating, agreements for IPD projects. Closely related to this issue is whether or not the professional liability insurance industry will, or should, develop "wrap-up" coverage for design risk exposures for all project participants who collaborate to develop and finalize design in IPD.

Some argue that resolving the design responsibility issue in IPD will require a paradigm shift in the way this issue has previously been addressed, while others maintain that conventional methodologies and frameworks for resolving the issue are adequate. Additionally, some argue that new fundamental professional liability insurance coverage is required to address collaborative design processes and associated shared design risk in IPD, while others maintain that the conventional professional liability insurance coverage is adequate.

¹ This paper focuses on design responsibility and risk, and the insurability thereof, in IPD. In addition to design collaboration and the sharing of design risk, IPD contemplates broader collaboration and the sharing of other important risks, such as construction-related risks. As a further point of definitional focus, Building Information Modeling (BIM) also involves collaborative participation of multiple project participants in the design development process and also raises issues of design responsibility, risk, and insurance. However, BIM is a tool or technique that may be employed independent of IPD, and IPD does not necessarily require the use of BIM.

Design responsibility and professional liability insurance coverage in IPD are not only complex issues, but are also frontier in nature. Does the past provide guidance for the future in the quest to resolve these design responsibility and related insurance issues?

B. The Past: Design Distribution and Delegation Experience

On November 5, 2007, the American Institute of Architects ("AIA"), in conjunction with the AIA's California Council, published Integrated Project Delivery: A Guide ("AIA Guide"). Section 4.4.2 of the AIA Guide, addressing professional liability and design responsibility, states:

"Because project participants remain responsible for individual scopes of work, an IPD approach should not alter traditional requirements with respect to professional or business licenses. Collaboration between designers and constructors does not inherently result in a blending of disciplines. Where assigned work scopes require a constructor to perform design services, it will need to handle that task consistent with registration requirements. This is no different than in the case under a non-integrated approach." (Emphasis added).

In substance, the emphasized words suggest that a meaningful point of reference for determining design responsibility in the collaborative IPD approach is prior experience in dealing with shared design responsibilities in the design-bid-build delivery method—notably, the practice of distributed or delegated design responsibility (hereinafter "design delegation").²

In the context of design delegation, the design responsibility issue has centered around three principal areas of concern.

- 1) Public law requirements and regulations—notably, state professional registration and licensure laws and regulations.³
- 2) Private law, or contractual provisions, relating to design responsibility and risk allocation in connection with the design delegation process.
- 3) The availability and adequacy of insurance coverage for design risk exposure in the delegated design process.

² In the context of this discussion, design delegation refers to the practice of distributing or delegating to the constructor (or one or more of its trade subcontractors) responsibility for the development and finalization of design of a portion or segment of the permanent project work (as distinct from temporary or incidental means and methods of construction). See D. J. Hatem "Design Delegation: Risk Management/Allocation Considerations for Design Professionals," The CA/T Professional Liability Reporter, Vol. 4 - No. 1 (Boston, November 1998), p. 7. The practice of design delegation reflects the reality that over the past 50 years the skills required for effective project design have increasingly become more technically specialized and the process of design (even in traditional design-bid-build) has become more collaborative.

³ There are other aspects of the "public law" discussion which go beyond the subject of risk for defective design. In addition to defective design risk, the IPD process raises issues as to professional liability exposure for the design professional arising out of contractually-shared roles, risks, and commercial/economic incentives. For example, shared risk for construction safety and construction means and methods and/or safety, or incentives for the design professional and other project participants (pain or gain) based on safety performance targets may increase professional liability exposure for design professionals under OSHA. For a general discussion of design professional liability exposure under OSHA, see D.J. Hatem, "Administrative, Regulatory and Registration Proceedings Involving Design Professionals," 1991 Wiley Construction Law Update.

As they relate to design delegation, these areas of concern have not been adequately addressed if the objective is a clear and pragmatic definition of design responsibility consistent with public law requirements, fair risk allocation, and responsive insurance coverage for professional liability risk exposure. Significantly, these are also the three principal areas of concern surrounding design responsibility in IPD, and the AIA Guide is correct in referencing the design distribution/delegation experience in design-bid-build as relevant to determining issues of design responsibility in IPD.

1. Public Law

In the more general context of this discussion, "public law" refers to laws enacted by the various state legislatures, as well as regulations promulgated by agencies or boards of those states. In contrast, contract or private law deals with the ability of parties to define and provide a mechanism for regulating their relationships, affairs, risk assumptions, commercial expectations, and legal obligations through a "private" ordering and arrangement (e.g., contracts). As a general rule, parties in the United States legal system have significant autonomy to define and structure the terms of their contracts, subject to compliance with any applicable (usually minimal) public law requirements, such as professional registration laws and regulations. See J. Sweet, Legal Aspects of the Architecture, Engineering and Construction Process (Thompson 2004), Section 5.02, at 32 (hereinafter "Sweet").

In the more specific context of design delegation, the principal registration/licensure issues relate to: (1) the qualifications of the person performing the design; and (2) who, in the context of distributed and delegated design, is in responsible charge of that design as well as the coordination and integration of the design with other, overall components of the project design. Does the distribution and delegation of design responsibility result in adequate protection of public health, safety, or welfare? In a context of collaborative design, can or should more than one person or entity be responsible for the entirety of the project design? Could design responsibility be compartmentalized in some manner such that multiple parties share design responsibility, or in which several different parties have responsibility for respective portions of the permanent project design work? These are all critically important design delegation issues.⁴

⁴ Certainly, no legitimate question may be raised about the importance of these issues in light of the severe consequences that may result when insufficient attention is directed to them. The 1981 collapse of the Hyatt Regency Hotel walkways, in Kansas City, resulting in the death of 114 people amply and adequately demonstrates this point. For a discussion of the Hyatt Regency matter, see M. Iqbal, "Ethics and Rules of Conduct Governing Design Professionals," Chapter 2, Design Professional and Construction Manager Law, American Bar Association (2007) (S. Hess, et al., eds.); Duncan v. Missouri Board for Architects, Professional Engineers & Land Surveyors, 744 S.W. 2d. 524 (Mo. Ct. App. 1988); J. Gollum, "The Engineer of Record and Design Responsibility," Journal of Performance of Constructed Facilities/May 2000, 67, 70 (stating that: "While the Engineer of Record may share some of his or her responsibility in accord with the standard of practice in his/her area of the Country, overall responsibility should not be delegated! In other words, *The Buck stops with the Engineer of Record.*").

Public law—especially professional registration laws and regulations—fall within the legal jurisdiction of each of the fifty states,⁵ and various states regulate design delegation in significantly divergent ways, with most states not having specifically addressed the practice.⁶ As such, predictability in the determination of acceptable design delegation practices is generally uncertain, and the development of standard contract provisions that comply with applicable public law requirements is a significant challenge. Moreover, resolving the important design delegation issues identified in the preceding paragraph from the public law perspective in a uniform (or “national”) manner is an additional challenge.⁷

The relatively undeveloped state of public law requirements pertaining to design delegation practice provides courts, in the context of third-party personal injury and death tort cases, with a fair degree of discretion to adjudicate design responsibility issues. In the absence of clearly-defined public law requirements for design delegation, and without constraint by contractual provisions relating to design delegation (as the third-party, by definition, is not a party to such contracts),⁸ especially in the context of often highly-sympathetic facts and circumstances (including serious personal injury and death), this judicial (and jury) discretion can be quite significant, relatively unbounded, and legally or pragmatically immune from appellate review.

2. Private Law—Contractual Risk Allocation

In the absence of public law limitations or regulatory constraints, parties have significant degrees of autonomy to allocate risk associated with the practice of design delegation. To be effective as reliable predictors of risk allocation consequences, contracts

⁵See generally, Sweet, Chapter 10. While registration laws are “public” laws in the sense of being enacted by the various state legislatures, there can be legal relationships between the determination of public law violations and professional liability based on “private law,” or contractual, or common law principles. See D.J. Hatem, “Administrative, Regulatory and Registration Proceedings Involving Design Professionals,” 1991 Wiley Construction Law Update. Also, when state legislatures or Licensing Boards do not act or act timely enough to address a professional matter otherwise subject to regulation, courts in the professional liability (notably, tort) context often “can supplement or even replace the regulatory licensing process...” Sweet, Chapter 10, p. 129.

⁶For an excellent summary and discussion of relevant state law pertaining to design delegation practice, see, C. Circo, “When Specialty Designs Cause Building Disasters: Responsibility for Shared Architectural and Engineering Services,” 84 Neb. L. Rev. 162, 216-226 (2005) (hereinafter “Circo”).

⁷Only a few states have directly addressed the practice of design delegation in state registration laws and regulations, with Florida and New York having the well-developed regulatory schemes.

⁸ Although contracts and contract documents among project participants are relevant in the context of determining civil liability of those participants to third parties, see D. Hatem, “Design Professional Legal Responsibilities - Construction and Completion Phases,” Chapter 4 in Design Professional and Construction Manager Law, (S. Hess, et al., Eds.) (American Bar Association 2007), they are not always determinative in that context particularly when public law requirements are not clearly defined or, worse yet, are not defined at all. Moreover, while it is “well accepted that a design professional sealing and signing the design does not hold a monopoly on all design knowledge necessary to complete a successful, modern construction project, and it is often prudent for him or her to rely upon the expertise of experienced contractors or suppliers to design certain components of the required work ... , design delegation does not imply design abdication. The licensure statutes permitting design delegation regulate the process by which a licensee may delegate design tasks.” Iqbal, note 4 supra, p. 50.

must be developed, negotiated, and finalized with due regard for, and deference to, the framework of public law regulation. Moreover, contracts must be pragmatic in terms of enabling parties to achieve performance in the context of the realities of the design and construction process.

Have contractual risk allocation approaches adequately, responsibly, and realistically addressed the practice of design delegation? Conventional wisdom is that contractual risk allocation approaches have not been adequately addressed, particularly when evaluated relative to proper regard for policies or requirements that do or should underlie relevant public law. In Circo, reflecting on design delegation contracting approaches in the years following the Hyatt Regency catastrophe, the author stated:

"Unfortunately, the primary legacy of the 1981 Kansas City Hyatt Regency Hotel catastrophe is not more aggressive legal controls over specialty design practices; it is, instead, contracting practices that more aggressively insulate project design professionals from specialty design errors. There is growing evidence that specialty design practices since 1981 portend increasingly troublesome questions of contractual responsibility and legal liability."⁹

Many contractual approaches to risk allocation in design delegation operate under the assumption that applicable state public law allows design responsibility for distinct portions of permanent project work to be assigned, distributed, delegated, or shared among multiple project participants provided that those participants are qualified and licensed to provide such a contribution to their respective portion of the permanent project design work. This assumption may not be consistent with the public law requirements of applicable state law. For example, in some states design responsibility may not be distributed or delegated notwithstanding the parties' desire to divide and allocate design responsibility among qualified professionals for portions of the permanent project work. The permissibility of these design responsibility distribution and allocation issues typically must be answered by reference to applicable state public law. However, given the very limited number of states which have chosen to directly address the practice of design delegation, parties are often left without an adequate public law framework within which to navigate, negotiate, and establish contractual risk allocation terms that would predictably, reliably, and realistically define their rights and obligations.

⁹ Circo, p. 164.

To contractually address design responsibility in the design distribution or delegation context, the AIA has explicitly acknowledged and approved the practice of design delegation since the introduction of related provisions in the 1997 edition of the AIA standard documents. Paragraph 3.12.10 of the 2007 edition of AIA Document A201, the General Conditions of the Contract for Construction, essentially tracks the language of the cognate paragraph in the 1997 predecessor document.

"§3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents."

Paragraph 3.12.10 assumes that, so long as its requirements are met, design responsibility for portions of permanent project work may be distributed or delegated among qualified project participants, and that the design responsibility may be allocated to each such participant for its respective portion(s) of the distributed or delegated design and/or specific and defined contributions to the design development process. Under paragraph 3.12.10—and in similar contractual approaches—the design professional of record ("DPR") is required, or likely, to provide some or all of the following services in the design delegation context:

- Developing and specifying the conceptual basis of the delegated design (e.g., design criteria or performance standards);
- Defining the qualifications of the specialty designer (“SD”);
- Reviewing (and, in some instances, approving) the design development submissions of the specialty designer;
- Coordinating the delegated design with the overall project design;
- Reviewing shop drawings or other construction contractor submittals regarding the delegated design; and
- Observing construction, reviewing and certifying payment applications, and making recommendations regarding acceptance of completed construction work relating to the delegated design.

In the context of the AIA contractual approach to design delegation, questions around design delegation practice have arisen among project participants in disputes and claims. Consider the following representative issues.

- Does the DPR remain responsible for the permanent design delegated if that design falls within the scope of the DPR's original design responsibilities?
- Is the DPR required to furnish design criteria or performance standards for the development of the delegated design, and to what degree and under what professional standard of care is the DPR responsible for the adequacy of those criteria and standards?
- Who is responsible for specifying and verifying the qualifications and experience of the SD?
- What is, or should be, the scope of the DPR's review of the SD's design submittals? Limited to conformance with specified or furnished design criteria or performance standards, or a more plenary review scope? In section 3.12.10 of the 2007 AIA Document A201, what does “...for the limited purpose of checking for conformance with the information given and the design concept expressed in the Contract Documents...” mean, and how effective is this provision in limiting the DPR’s review scope and responsibility?
- Who is responsible for the coordination and compatibility of the DPR's design of the non-delegated portion of the project permanent work with the delegated design portion?
- Who should review the construction contractor's shop drawings regarding the delegated design? DPR, SD, both? And for what purpose(s)?
- How does the Spearin implied warranty doctrine apply in the context of delegated design responsibilities?
- How does design delegation reconcile (or not) with professional registration and licensure laws for design professionals?

- Do the construction contractor, its trade subcontractor, and/or the SD have adequate professional liability insurance to cover risk associated with defects or negligence in the delegated design?
- Does the blending of design functions representative of collaborative and shared design processes blur lines of legal responsibility and increase the risk of compromise in public safety, health, or welfare?
- How does one reconcile contractual allocation of design adequacy risk and responsibility among those participants functioning in a collaborative and shared design mode with countervailing public law requirements such as registration/licensure laws and OSHA? Can these conceptually distinct spheres of legal responsibility really be compartmentalized? Or, does one impact or override the imposition or assignment of legal responsibility in the other?¹⁰

¹⁰ Circo has summarized some of the scenarios involving claims against the DPR in the design delegation context: "... [I]n some cases the owner may have a claim against the project architect or the architect's engineering consultant for specialty design defects. The owner may establish a professional negligence claim against the project architect by proving the project architect's professional negligence in performing services under the architect's contract that relate to the specialty work. Several factual possibilities might emerge.

The owner might be able to show that the project architect or the architect's engineering consultant negligently approved the specialty engineer or negligently failed to review or question the qualifications of the specialty engineer. The contract for the project architect's services is likely to leave considerable doubt about the role of the architect and its consultants in selecting or approving design professionals retained by a design-build subcontractor. In an appropriate circumstance, however, the owner might successfully argue that either the contract language or the surrounding circumstances imply a role. For example, if the plans provided by the owner's architect and its engineering consultants provide that a subcontractor must furnish critical structural design details, a court might conclude that the project architect's professional responsibility includes, by necessary implication, at least the obligation to confirm that the subcontractor retains a qualified structural engineer.

The project architect and its engineering consultant might also incur liability if they failed to convey adequately to the design-build subcontractor the design concept or inadequately established the design criteria for the subcontractor to meet. It is difficult to assess in the abstract how to address claims of this nature because it is not clear how a court should interpret a contractual requirement that the project architect must provide the design concept and the design criteria. Presumably, even though the project architect's design services agreement completely excludes the specialty design, the project architect and its engineering consultant still may need to specify certain critical details. For example, if the specialty work involves structural components, the owner's design team may be responsible to provide such critical design details as the load-bearing requirements of connections or the materials to be used. In some cases, the design professionals on the owner's design team might be subject to liability for failing to specify that the specialty engineering submittals must meet certain industry standards or must include certain supporting documentation or calculations.

The process involved in approving or otherwise permitting the specialty design to become final may provide the most fertile ground for a claim against either the project architect or its engineering consultant. No matter how the contract documents describe the actions of the owner's design team in relation to the specialty work, one or more members of the team will probably have some responsibility with respect to a significant number of submittals that require action on behalf of the owner. Each of those responsibilities must be performed in conformity with the professional standard of care. For example, the architect might incur liability based on a limited obligation to review the construction drawings for conformance with the requirements or information the architect furnished or based on an obligation to coordinate the specialty design documentation with the other design documents for the project. A claim of that nature might succeed, for example, if the architect's plans show inadequate details to guide a manufacturer in the manufacturing process or if the architect accepts drawings submitted by the subcontractor that bear no professional seal, or if a process or documents essential to proper coordination are missing or inadequate.

The owner might even be able to develop evidence that the project architect breached the professional standard of care by leaving responsibility for this specialty design to a design-build subcontractor in the first instance. This would probably require expert testimony that under the circumstances it was not professionally prudent to divide design responsibility in the manner contemplated by the project architect's plans. There must be circumstances in which a project architect should not allow division of design responsibility or should do so only with the added protection of a comprehensive review on the owner's behalf by an independent engineer who is part of the owner's design team. At a minimum, the project architect should be responsible in most cases to establish a process that assures that appropriately licensed professionals provide or approve all critical design services and that coordinates all design services for the project.

In some situations, a court might identify a non-delegable duty of the project architect or one of the architect's engineering consultants. Even if a court would recognize a non-delegable duty of a member of the owner's design team for certain aspects of the project, one might question whether that duty should extend to a specialty design that is expressly excluded from the contract between the owner and the project architect. In an appropriate case, a court might explicitly or implicitly impose a non-delegable duty on the project architect or the architect's engineering consultant as the design professional of record for the project or on the basis of ordinances governing approval of design plans under the applicable building code." Circo, pp. 239-41.

These critical issues typically are resolved in the context of any applicable and promulgated public law requirements, contractual risk allocation, and other relevant provisions, as well as prevailing professional and industry practices. As a general observation, predictability of results in the resolution of such disputes—especially in litigation and arbitration, and by juries in sympathetic personal injury and death tort cases—is a highly uncertain proposition for all project participants, especially the DPR, thus posing significant risk for all participants.¹¹

Recognizing that the goal of any contract is to structure commercial and legal (risk) matters in a way that promotes certainty, predictability, and realism in the enforcement of rights and obligations among the contracting parties, the contractual risk allocation approach in design delegation practice has not been adequate. In part, this results from an unclear public law environment in many states, as well as from unclear contract provisions that raise more issues and fertile ground for disputes and conflicts than they solve.

3. Availability and Adequacy of Insurance Coverage for Design Risk Exposure in the Distributed or Delegated Design Context

The availability and adequacy of insurance coverage for design risk exposure is another important dimension of the design responsibility discussion in the collaborative design context. In the design delegation context, insurance coverage has been, at best, varied with relative degrees of unpredictability and heightened risk exposure for all project participants, especially the DPR if other project participants do not have adequate, or any, coverage for design risk (or other professional liability) exposure.

Contractors and trade subcontractors to whom design responsibility for portions of permanent project work is delegated (as distinct from construction means and methods) have, at a minimum, vicarious responsibility for defects in the design. Commercial general liability insurance policies may be endorsed to provide limited professional liability coverage but, typically, coverage is restricted to exposures for construction means and methods design as distinct from design of permanent project work and, typically, no coverage is afforded under such policies for claims involving purely economic loss or damage.¹² However, contractor professional liability insurance provides coverage in those areas (assuming the constructor

¹¹ Again, Circo states:

"Although specialty design-build practices have yet to produce many reported decisions, these cases show that any shared design process may blur conventional liability boundaries. Even in the relatively rare instance in which the circumstances or the contracts clearly delineate the distinct responsibilities relating to the specialty work, it may be difficult to characterize each step in the process as exclusively within one scope or the other. Often, the project A/E, the prime contractor, and the specialty designer (and, perhaps, others) will have overlapping responsibility for interdependent aspects of the process by which the specialty design is developed, approved, coordinated, and integrated into the project. All of these factors will tend to distribute to several participants some risk of liability associated with specialty design." Circo, pp. 211-12.

¹² See Design-Build Risk and Insurance, A. Hickman (ed.), IRMI, 2nd ed. 2006.

and/or its trade subcontractors procure it). Accordingly, many specialty designers engaged by constructors or trade subcontractors, do not procure or maintain professional liability insurance.

The DPR typically maintains professional liability insurance. In instances in which insurance coverage for defective delegated design is not maintained by the constructor, trade subcontractor, or specialty designer, the DPR's professional liability insurance is often called upon to defend and indemnify claims even though the design professional of record may not be legally (public law) or contractually (private law) responsible for the final and delegated design. The DPR's professional liability exposure and that of its professional liability insurer therefore is, as a pragmatic matter, increased if other project participants to whom design responsibility is distributed or delegated do not maintain adequate, or any, insurance coverage for defective delegated design. Moreover, as noted above, there are many potential professional liability claims scenarios involving the role of the DPR,¹³ emphasizing the need for adequate professional liability insurance coverage even though the DPR may not be legally or contractually responsible for the final, delegated design.

C. Design Responsibility in IPD

As previously stated, the three principal areas of concern for design responsibility relative to the design delegation experience—public law, private law or contractual risk allocation, and insurance coverage—are equally applicable and critically important in the context of design responsibility in IPD. These areas of concern are interrelated, and the key to successfully addressing them in IPD is, in itself, a sequential, integrated, and consistent approach.

1. Public Law

How will state registration laws respond to design responsibility in IPD? As previously discussed, state legislatures and registration boards have reacted variously, and most not directly, to the practice of design delegation. Thus, based on the latter experience, it is quite possible that many states will not directly address the subject of design responsibility in IPD. States may choose to address the subject in a more implicit, indirect, and generalized manner by reference to registration law definitions of the term "responsible charge" as a source of guidance in determining design responsibility in IPD. Other states may regulate design responsibility in IPD more directly, intently, and explicitly. The National Council of Architectural Registration Boards may develop a "national" or standardized regulatory approach to recommend to its member state boards.

¹³ See note 10 supra.

States that have chosen to directly and explicitly regulate the design delegation practice focus on three key criteria:

- that design responsibility be distributed or delegated to persons who are qualified to perform that design;
- that the design distribution or delegation, and responsibility therefore, be clear and explicit so as to minimize the risk of ambiguity or uncertainty about responsibility for design; and
- that the DPR's role and responsibility therefore be clearly defined and understood (typically to develop design criteria and/or performance standards); and, correspondingly, that the specialty designer's role and responsibility therefore be clearly defined and understood (to develop and stamp final design consistent with the design criteria and performance standards).

The essence of the design delegation practice is the distribution of design responsibility among multiple and different qualified project participants for portions of the entire final design of permanent project work. In other words, multiple project participants share, in independently-defined respects, responsibilities for different portions of the project design, with each participant having segregated and allocated design responsibility for their respective portion(s).

The collaborative design process of IPD is fundamentally and conceptually distinct from design distribution in the design delegation approach. In essence, collaborative design in IPD involves multiple project participants—the owner, the design professional, and the constructor—all simultaneously participating in the design development process related to the entirety (distinct from portions) of the final design of permanent project work. As stated in the AIA Guide (p. 23):

“[i]n an integrated project, all team members provide whatever input they can to all aspects of the project.” (emphasis added).

Further, in contrast to design delegation, collaborative design in IPD may have multiple project participants involved in multiple aspects of multiple portions of the entirety of the final project design.

Recognizing this important distinction from a public law regulatory and public policy perspective, does design delegation or design collaboration in IPD pose more concern for public health, safety, or welfare? Certainly, one could argue that the IPD collaborative design process should serve to reduce risk of defective design given the simultaneous involvement

and contribution of multiple project participants. However, one could also argue that "too many chefs in the kitchen" requires that someone assume responsible charge over the collaborative design process, and who better qualified than the architect and/or its consulting engineers to assume that "responsible charge" position?

Collaborative design in IPD will, and should, result in the DPR retaining and assuming "responsible charge" status and responsibility for the final design. If the major project participants establish a single purpose enterprise ("SPE"), it may be that the SPE, rather than any individual member, may be responsible for design,¹⁴ and that collaboration will not, and should not, serve to diminish the design professional's public law responsibility for that design.¹⁵

Design professionals need to take the initiative in working with state registration boards (and perhaps, nationally, at the regulatory level) in the development of public law requirements that define and govern important aspects of design responsibility in the collaborative design process of IPD. This could well be a protracted effort (with a significant degree of uncertainty and risk in the interim), but clearly one that should be commenced, given the significant interest in IPD within the owner, design professional, and constructor communities. The establishment of a public law framework will provide the most realistic, reliable, and predictable context within which IPD parties will, and should, develop contractual (private law) risk allocation terms that possess the most promise of being enforced, and otherwise respected, by courts in the third-party tort liability claim context. If the design professionals do not take the initiative, and lead these efforts, contractual approaches are likely to be less effective, less realistic, and less reliable in predicting risk consequences for design responsibility in IPD. Further, insurance solutions will be more elusive and, probably,

¹⁴ If the major project participants establish a single purpose enterprise ("SPE"), it may be that the SPE, rather than any individual member may be responsible for design. However, it remains to be seen how registration boards will respond since, in most jurisdictions, the SPE itself will not be able to be licensed to provide design services being performed by the design professional member of the SPE.

¹⁵ Application of the "responsible charge" requirement, in itself, will be challenging in the context of IPD. As one commentator, reflecting on the application of "responsible charge" in the more narrow context of BIM has stated:

"The professional registration statutes generally require that a licensed professional be in "responsible charge" of all work performed by a design firm. This work must either be performed or supervised by the responsible professional. The contract documents are sealed by the responsible professional to signify compliance with this requirement and acceptance of this responsibility. If design responsibility is distributed, however, is this even possible? How can a professional supervise design contributions by firms that are not under the professional's control? How can a design professional supervise changes to structural detailing that are performed by the software itself? In the short run, building officials are likely to accept sealed drawings without considering what portion of the content has been created under the responsible charge of the signing professional. But in the long run, the professional registration statutes must be modified to reflect the actual practices, and realities, of digital design."

H. Ashcraft, "Building Information Modeling, A Framework for Collaboration," American Bar Association, (October 2007), p. 20.

nonresponsive. More importantly, if the design professionals fail to take that initiative, others—most notably, and potentially problematically, courts in the third-party personal injury tort context—will "announce the rules." In the latter circumstance, the design professionals will have made a decision "by default" and put themselves in a circumstance in which design responsibility is defined in the least desirable context, affording them the least opportunity for influencing the development of governing principles consistent with the realism of the collaborative design process.

2. Private Law, or Contractual Risk Allocation for Design Responsibility in IPD

Contracts serve an essential purpose in the design and construction process, establishing and evidencing the parties' risk allocation decisions, including risk allocation for defective design in a collaborative, or shared, design development process. Contracts are intended to provide a means to clearly define, achieve, and memorialize the legitimate and realistic legal and commercial expectations of the parties relative to the materialization of certain risks anticipated at the point of contract formation. Contracts provide relative certainty and predictability to the parties; if the risk materializes, the contract should define the consequences for the respective parties as well as a basis for judicial enforcement (if necessary).

All of this rationalizing, however, about the central role of the contract in allocating risk among the parties in the collaborative design process assumes that the contract is negotiated and established in the context of public law regulatory requirements, and that the contract complies with those requirements. If that simple objective is not achieved, the parties to the contract have deluded themselves into believing that their contract will provide the definitive, reliable, and predictable enforcement mechanism should disappointed legal and commercial expectations arise in the collaborative process. In other words, the development of standard forms of IPD agreements, while important, is subordinate to the more important acknowledgment that this effort be undertaken in the context of, and consistent with, a defined public law regulatory framework and with reference and deference to that framework.

Public law regulation certainly presents a restriction on the autonomy of parties to agree by contract (private law) as to how they choose to allocate or share design risk in the IPD collective design process. However, given the legitimate public interest in how design responsibility is addressed in the collaborative IPD, it is not realistic to suggest that parties have complete autonomy in how they contractually order their legal obligations. Contractual forms of agreement and contractual decisions regarding risk allocation simply cannot be made in a vacuum given the strong public interest in protecting public health, safety, and welfare in

the design responsibility area. Public law will, and should, have an important direct, indirect, and interstitial role in determining how design responsibility risk will be assigned in IPD. Moreover, as previously noted, courts in a third-party tort claim are likely to intervene, inject, and declare their own liability principles for design risk responsibility in IPD.

Any concern of design professionals that a proactive approach to address the public law aspects of design responsibility in IPD will lead to an unnecessary or unwarranted infringement on contract autonomy are misguided and unfounded. As a general guideline principle, contractual risk allocation in IPD must be consistent with public law requirements, clear, realistically achievable, with adequately-balanced risk, reward, and benefit among all IPD project participants. Assuming that the public law framework is established, contractual risk allocation negotiations and decisions can be made in an informed manner that more adequately accounts for a realistic, reliable, and predictable assessment of the risk consequences and ultimate enforcement of those decisions.

On one level, IPD may be seen as increasing potential professional liability risk exposure for the design professional. More specifically, the design professional assumes the risk of being in "responsible charge" of the final project design even though other project participants have collaborated in, contributed to, and influenced the development of that design.¹⁶ However, collaborative or shared design does not necessarily equate with shared design responsibility.

Among the project participants, however, the role and opportunity of the constructor and its trade subcontractors to contemporaneously participate in the design development process needs to be contractually reckoned with and accounted for by a reduction in their opportunities for claims based on defective design. Under the Spearin implied warranty doctrine, the owner who typically issues final and detailed (prescriptive) design to a constructor impliedly warrants that the final design will be adequate to achieve the end product of that design. The rationale for imposing the implied warranty obligation upon the project owner, as issuer of the design, is that the owner is in control of the design development process and that, typically in the design-build-bid method, the constructor has no ability or opportunity to contemporaneously, meaningfully, or otherwise influence the process of design development and is required to construct in strict conformance with the furnished project design.

¹⁶ Of course, it should be acknowledged that the collaborative design process in IPD should also serve to reduce claims, disputes and professional liability exposures arising out of issues, questions or problems during construction with the constructability or achievability of the design given the constructor and key trade subcontractors' simultaneous participation in the design development process.

In a collaborative design context, the rationale for the application of the Spearin implied warranty obligation legitimately is called into question given the contemporaneous and potentially influential and meaningful role of the constructor (and/or its trade subcontractors) in the design development process.¹⁷ Accordingly, IPD contract terms should justifiably include risk allocation provisions for defective design that alter in significant ways the traditional application of the Spearin implied warranty doctrine.¹⁸

At first blush, it may appear that such a contractual risk allocation modification of the otherwise applicable Spearin implied warranty doctrine would affect only risk and claims exposure between the owner and constructor. However, given the risk sharing among owner, constructor and design professional for, among other things, defective design risk in IPD, this type of modification should also serve to benefit the design professional. Moreover, to the extent that a constructor's implied warranty claim against the owner is based upon alleged deficient design, or other work product or services of the design professional, it is likely that the owner may assert negligence or indemnification claims against the design professional

¹⁷One commentator, reflecting on the impact of the collaborative design process of BIM on the Spearin implied warranty doctrine, has stated:

“Certainly, to the extent that design information provided to the contractor in a digital model is inaccurate, the contractor should be able to rely on such information and should have a corresponding Spearin Doctrine defense as well as a remedy in the event of design deficiencies. However, there are permutations from that principle. First, wholesale implementation of BIM methodology contemplates, if not demands, full participation by the contractor in reviewing the design model early on in the design process. In such event, the contractor may lose the benefit of the owner's implied warranty by application of the patent defect exception to the Spearin Doctrine which requires that patent errors be recognized. To point out the obvious, BIM participation by the contractor may and could well lead to timely (preconstruction) discovery and correction of certain design errors so as to abrogate any subsequent necessity to invoke the Spearin Doctrine. Nevertheless, it is a certainty that certain design errors in certain circumstances will not be deleted. In such instances, the right of the contractor who participates in BIM to invoke the Spearin Doctrine involves an analysis of whether an error otherwise latent should be considered patent. In that regard, it is not unreasonable to project that the threshold for invocation of the Spearin Doctrine by a contractor and BIM participant in such a situation will be set quite high.

Apart from a heightened obligation to detect errors, a BIM contractor may also tread closely to an inability to invoke the Spearin Doctrine by its early-on addition of detail into the digital model. In such circumstances, a trier-of-fact would likely scrutinize whether the project owner was obligated to warrant such specific aspects of design. Of course, contribution, at any stage, to design, even design in its inception, should not necessitate a corresponding obligation on the part of the contractor to enmesh itself into unrelated aspects of design and should not preclude resorting to the Spearin Doctrine as regards such other areas of design.

While it is naturally appropriate to focus on whether the contractor's right to recover from the owner for defective plans and specifications will be undermined by the contractor's participation in BIM, it needs to be recognized that there is another school of thought that BIM will lead to even a greater right on the part of the contractor to recover from the designer for errors in design This possible expansion of right of recovery of the contractor BIM participant has been expressed as follows:

With the electronic sharing of information, the ability of contractors to claim detrimental reliance on the design has increased. Case law seems to be moving from the Spearin doctrine in which the client [the Owner] provides an implied warranty of the suitability of the documents for construction but the design firm only has to meet a professional standard of care. Now, a new paradigm seems to be allowing contractors to claim [against the design firm] they are intended beneficiaries of the design information and therefore have an absolute right to rely on its accuracy. Much of this trend is tied to the use of electronic information, and BIM may accelerate this trend.” T. M. O'Brien, “Building Information Modeling Sailing on Unchartered Waters,” American Bar Association, October 2007, 30-23, quoting “Building Information Modeling: Will Professional Receive the Benefits,” Schinnerer, Guidelines for Improving Practices (May/June 2006).

¹⁸ Contractually, this could be accomplished by the constructor releasing the owner and design professional of design defect claims, granting a covenant not to sue, or more moderately, agreeing to assume design defect, direct, and consequential cost up to a defined monetary threshold.

arising out of the constructor's underlying claim against the owner. Thus, even though design professionals typically are not directly a party to implied warranty claims, there is a distinct likelihood that such claims involving the design professional's services may give rise to claims by the owner against the design professional.¹⁹ IPD contractual limitations on the implied warranty obligation of the owner should serve, both directly and indirectly, to limit and manage professional liability exposure of the design professional.

Efforts to develop standard IPD agreement forms should be encouraged, especially if those efforts are undertaken with due regard for the need for public law definition and requirements. Design collaboration may well provide a legitimate rationale or reduce defective risk exposure among contracting parties, and may serve as the basis for significant curtailment of the Spearin implied warranty doctrine. However, as previously stated, collaborative design does not necessarily mean shared design responsibility under public law requirements.

3. Insurance Coverage for Design Defects in IPD

How should insurance coverage for design risk exposure apply in IPD? The answer may seem much more complex and uncertain than it really needs to be in the final analysis.

The first step in the analytical process is providing an answer to the public law issue previously discussed. Insurers, typically and generally, underwrite the risk of insuring only legal conduct. Before an insurer is asked to cover design responsibility exposure in IPD, public law needs to define what is and is not "legal" in terms of shared design responsibility in the collaborative design development IPD process.

¹⁹ See D.J. Hatem, "The Pendulum Begins to Swing Back: Recent Judicial Limitations on the Negligent Misrepresentation Exception to the Economic Loss and to the Spearin Implied Warranty Doctrines," Design and Construction Management Professional Reporter (January, 2008); D.J. Hatem, "The Relevance and Potential Impact of Risk Allocation Provisions in Owner-Contractor Agreements on Professional Liability Exposure of Design Professionals," Design and Construction Management Professional Reporter, (October 2003); B. Hinkle & M. Less, "Dealing with the Cumulative Effects of Requests for Information, Change Order Requests and Change Directives," American Bar Association, October 2007. The latter author has suggested that, when constructors are unable to successfully assert an implied warranty claim against the project owner, the constructor may be able to pursue a negligent misrepresentation claim against the design professional:

"For the Contractor, unable to rely upon an implied warranty or Spearin theory for recovery against the Owner, a variety of jurisdictions have alternate avenues that may permit the recovery of delay damages based upon deficient designs. One such option permits the Contractor to assert a valid cause of action directly against the Architect, despite a lack of privity, to recover cumulative impact damages under section 552 of the Restatement (Second) of Torts (1976). Several jurisdictions have expressly adopted the Restatement section 552 cause of action, permitting recovery for delay damages based upon a negligent misrepresentation theory. ... While the Restatement (Second) of Torts section 552 cause of action does replace the Spearin Doctrine for the benefit of Contractors who suffer delay damages in reliance on representations by the Owner or Architect, the section 552 cause of action does provide an alternate theory for the recovery of compensable damages." B. Hinkle + M. Less, supra, pp. 61-64.

Next, underwriters typically will evaluate the insurability of risk—design risk or otherwise—in the context of contractual risk allocation. Logically, it is important that the territory of public law and contractual (private law) issues be somewhat defined and understood before insurance reasonably can be expected to respond to the design responsibility risk in IPD. Professional liability insurers should, thereafter, be expected to support design professionals in providing coverage for design risk exposures in IPD.

The professional liability insurance industry certainly needs to have an open mind as to potential new coverage that may be required to respond to design responsibility risk in IPD. However, as defined in section C.2. herein, if public law requires that the design professional retain and assume "responsible charge" of the final project design notwithstanding the collaborative nature of the design development process, it may well be that conventional professional liability insurance coverage (presently available to design professionals and constructors) will, and should, be generally adequate and responsive to design risk exposure for the DPR (and its subconsultants) in the IPD collaborative process.²⁰

Contrary to the sequential and methodical approach advocated in this paper, some argue that the public law and contractual issues are less important and even secondary to resolve if insurers were to provide "wrap-around" coverage for design responsibility exposure of all IPD project participants. In response to that argument, insurance should never be a "solution" for ill-defined or non-existent public law requirements (particularly, in the professional registration area) when it comes to design responsibility issues that affect public health, safety, and welfare. Further, insurance should not be viewed as a substitute for well-conceived, realistic, and effective contractual risk allocation, or as an excuse for the absence of professional standards or adequate performance.

²⁰ See, T. O'Brien, "Building Information Modeling Sailing on Uncharted Waters," American Bar Association (October, 2007), pp. 33-37. Again, it is important to emphasize that this paper focuses only on design responsibility and risk, and the insurability thereof, in IPD and that there are other equally important shared risks and related insurability issues that are presented in IPD. The statement in the text about the potential general adequacy and responsiveness of professional liability insurance coverage for the DPR (and its subconsultants) must be understood relative to that limited focus. While, in general, conventional professional liability insurance coverage may adequately address design risk exposure for the DPR (and its engineering subconsultants) in IPD, there probably will be the need for certain modifications to standard policy forms. For example, depending upon contractual terms and project participant relational structure in the IPD agreement, those participants may (and are likely to) have common management or ownership in a special purpose or other such enterprise or entity. This type of relationship may well pose potential coverage issues under exclusions or limitation for coverage under standard policy forms involving claims in which the claimant and professional insured have common management or ownership.

While the scope of conventional professional liability insurance coverage may be adequate as a general matter to address design risk exposure for the DPR in the IPD context, it is probable that design responsibility risk in IPD may need to be underwritten on a project-specific basis given the need to evaluate specific project technical and contractual risk sharing and allocation considerations. In any event, it would seem that a project-specific underwriting and coverage approach should be feasible in IPD. On a project-specific basis it may be possible to provide some degree of coverage for design risk exposure of other project participants relating to design of permanent project work. However, the advisability of including such other project participants depends upon the extent to which all such relevant participants are parties to the IPD Agreement; the more embracing the inclusion of key project participants in the IPD agreement, the more manageable and insurable the risk exposure.

D. Conclusion

IPD is generating increasing interest and sense of promise in the owner, design professional, and constructor communities. IPD does have promise. However, that promise may never be realized if design professionals do not take the lead in addressing the three principal areas of concern surrounding design responsibility in IPD by: (1) working with states to define public law requirements; (2) developing appropriate contractual risk allocation terms; and (3) working with the professional liability insurance industry to develop adequate and responsive insurance coverage for design responsibility exposures. Design professionals should and must take the initiative and lead in this process, or others—courts or juries—will do so by default in undesirable circumstances that are unreceptive to rational and realistic input from design professionals.

Given the rising level of interest in IPD, now is the time to commence in earnest the process of sequentially, realistically, consistently, and effectively resolving these principal areas of concern on an integrated basis to align collaborative design with principles of design responsibility.

David Hatem is a Founding Partner of the Boston-based law firm, Donovan Hatem LLP. He leads the firm's Professional Practices Group, which represents engineers, architects and construction management professionals. Attorney Hatem is nationally recognized for his expertise in law related to the design and construction industry. He is regularly called upon by this country's leading architect and engineering firms to provide procurement advice to public owners contemplating major projects and to propose risk management strategies, and solutions, especially on major subsurface projects.

Throughout his career, Attorney Hatem has dominated the representation of consulting engineers and construction managers, providing services to major Boston-area construction projects, including: the Massachusetts Water Resources Authority's Boston Harbor Cleanup Project, and its Metrowest Tunnel Project; the Massachusetts Highway Department's Route 3 Design-Build Project; the Massachusetts Bay Transit Authority's Greenbush Project; and, most prominently, the Massachusetts Transit Authority's Central Artery/Tunnel Project. In addition, Attorney Hatem has been retained by professional liability insurers under Owner-Controlled Insurance Programs to represent engineering consultants and construction program management professionals on major underground projects throughout the United States, including New York City's East Side Access Project and Second Avenue Subway Project, L.A. Metro's Red Line and East Side Extension Projects, Seattle's Sound Transit Project, Milwaukee Metropolitan Sewage District's Deep Tunnel Project, Dallas' DART Light Rail Transit Project and Houston's Rapid Transit Project. Attorney Hatem is presently providing risk management/insurance advice regarding a proposed professional liability OCIP Program for the Second Avenue Subway Project in New York.

Attorney Hatem frequently lectures on issues of professional liability for design and construction management professionals, risk management, and Design-Build procurement issues, and he has authored numerous related articles. Attorney Hatem also teaches a course at Tufts University, "Legal Aspects of the Engineering Process."

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