PUBLIC-PRIVATE PARTNERSHIPS

A LOOK FROM THE INSIDE AT THE RISK MANAGEMENT ISSUES

ACEC Risk Management Committee

The Risk Management Committee of the American Council of Engineering Companies (ACEC) believes the Public-Private Partnership (PPP) method of project delivery is becoming increasingly important, particularly in large tollway projects. This model is not native to the US and was largely unknown until a few years ago. The model rearranges the roles and relationships we have become used to in the conventional design-bid-build scheme. Conventional drivers of behavior have been shifted by the addition of new partners, differing payment schemes, long-term profit rather than short-term profit, and being owners and caretakers rather than designers and builders. If new players do not understand the new motivations, alliances, and relationships, the results can affect small and medium size firms, costing them significant monies, lost productivity and maybe even their existence.

To determine these impacts and role changes, the ACEC PPP Sub-Committee convened a roundtable of successful and experienced professionals in the Tollway PPP business to discuss the pertinent issues in a no-holds-barred discussion of the roles and relationships in a PPP. This group, including owners, concessionaires, financiers, builders, designers, and key subconsultants met for a full day in Houston, Texas on January 9, 2009 to create this document. We owe them a debt of thanks for sharing their knowledge and experience.

This document is provided solely for informational purposes as an issue-spotting guidance paper for those firms contemplating PPP projects. It is not intended to provide a standard of care or legal advice. ACEC is not responsible for, and expressly disclaims, liability for any claims arising out of use, reference to, or reliance on information contained in this document.

Public-Private Partnerships are a variation of the old Design-Build-Operate-Maintain model, which was occasionally used in highway construction. The financing and profit features have been added along with return of the facility to the public entity after the "lease" period. Agreements to perform the services inherent in a PPP have no standard conventional contracts and have been called "Comprehensive Development Agreements," "Exclusive Development Agreements" and a wide variety of other titles by the various public entities. Each of these agreements is likewise unique and can have a wide variation in requirements, specifications, mandates, and rewards. Thus, the first and foremost of the considerations is the form and terms of the agreement itself. Among these considerations are:

- Right-of-Way acquisition and ownership.
- NEPA status and ROD status and control of process.
- Project Viability – Is the project financially viable and if not, has an alternate source of funding been identified?
- Public Perception on the Concept and PPP – Will the concept of PPP and tolling be supported by potential customers?
- Design parameters
    - AASHTO, State DOT, local agencies or others
    - Preliminary designs and the right to adjust designs during the proposal process and after complete investigation
- Design methodologies
    - Pavement design methodologies, i.e. empirical vs. mechanistic
    - Traffic (design vehicle) and number
    - Subgrade improvement
    - Slopes/retaining structures
    - Tolling systems
- Length of operating agreement or "lease."
- Requirements for "hand back" condition of the facility.
- Tolling limits/profit sharing.
- Maintenance minimums such as roughness, PCI, or other standard.

These contractual considerations need to be addressed and be satisfactory for the entire team, including subcontractors and subconsultants. Frequently the initial contract issued by the procuring agency will impose undue and unworkable requirements on the proposers, e.g. requiring the bid for pavement to be a guaranteed maximum before the subgrade is fully investigated. It is important for all team members to contribute to the identification and resolution of these matters, including encouraging the procuring agency to reconsider either its requirements or the data made available to teams during the procurement phase.

The Public-Private Partnership team is unique in the construction business since the owner, financier, concessionaire (leaseholder), builder, subcontractor, maintenance contractor, designer, and critical sub consultant are all part of the team and must work together for an extended period. Thus, team chemistry and communication are critical. Becoming part of a team where each party does not understand the required contribution of each other party could spell disaster.

Having discussed the contractual and teaming aspects, the remaining considerations were deemed secondary by the group and will be listed in no particular order with no particular team member in mind. These considerations include:

- It is important for the developer / concessionaire to take a long-term 30-50 year view. This long term view will allow the concessionaire to examine the trade-offs between short term vs. long term expenditure, which is difficult within a Design-Build or Design-Bid-Build procurement.
- Despite the desire of engineers to provide a long-lasting structure, it may be less expensive to replace the structure within or at the end of the contract.
- Public Relations during the public comment period are critical. Teams should be willing to help the owner with PR – many worthwhile projects have been terminated due to the public's lack of understanding.
- The "preliminary" pavement design becomes the final design as soon as the team is selected.
- Most concessionaires believe designers should participate in the financial risk associated with preparing a proposal in a competitive process, i.e., design the project for a discounted fee at the proposal stage.
- Traffic and revenue projections provided for financing studies should be considered very conservative for design purposes.
- Pavement designers should understand the risk of providing preliminary pavement designs that become final designs as soon as the proposal is accepted: (a) there is no room for error, (b) too conservative and the proposal will fail, (c) too aggressive and the pavement will fail. In order to manage these design and construction risks, designers and contractors should be pro-active in seeking additional information from the procuring agency or, as a last option, directly from field tests.
- Financiers closely monitor and influence the process by seeking independent advice in relation to the:
    - Cost of construction
    - Timing (opening date)
- Contractors/Concessionaires should consider the design must be relatively complete to properly bid the job, which requires a considerable effort on the part of the design partner.
- Liquidated damages tied to completion dates are very high due to the need to cover debt service (e.g. bond payments).
- Contractors are paid based upon milestone events rather than work performed and "materials on hand." Concessionaires recognize that the most efficient financing solution is one where the contractor is not required to provide financing on behalf of the project, and milestones should be set with regard to the work program and funding requirements of the contractor.

- Many participants in PPP projects have experience in international markets. It is important to marry their international experience with U.S. practice and standards and to manage any differences in approach closely to ensure that design and construction risks are appropriately managed.
- Most financiers are foreign-based and may have their own ideas about design and construction, which may not mesh with our concepts.
- Do not underestimate the power of the governmental entity to control/rewrite the agreement, terms, conditions, alignment, etc., even after the contract is signed.
- Naturally, designers/Engineers may not intimately understand the financing viewpoint (and vice versa). A strong team will communicate and reconcile competing priorities.
- Owners typically have their own engineers who have an interest in protecting their own designs as well as the interests of the owner.
- The uncertainty of traffic volumes is a critical risk and provision should be made fpr counting the traffic loads (as part of a broader traffic and revenue study).
- The contract should explicitly allocate the risk of needing to expand the facility before the scheduled expansion date or end of lease.
- Weigh-in-motion sensors not only protect the team from heavy traffic damage but can also be used as enforcement of weight restrictions.
- Environmental project approvals are usually owner- or concessionaire-controlled.
- Profit distribution between the owner/concessionaire/builder/designer/sub-consultants is often not addressed or is confusing. Some transparency is required so financiers can understand the "buffer" built into the project economics.
- Design/builder has ultimate responsibility for completing the project on time and within budget.
- Concessionaire legal entity – owner wants only one to be responsible; joint-venture/corporate/etc. Subcontracts will usually outline the roles, responsibilities and rewards of the team members.
- How does the concept of negligence fit into this project delivery model?
- Dealing with the cost, delays, etc., of utility relocation/improvement is problematic – generally the concessionaire team will seek some risk sharing with the owner.
- Dispute resolution – consider dispute avoidance program including risk allocation, partnering, and alternative dispute resolution (DRB, Mediation, and Arbitration).
- Who determines when the documents are good enough for construction – is a detailed set of design documents really necessary?
- Contingencies – who owns them and how are they distributed?

- Maintenance costs must be a primary consideration in selecting competing designs – "whole of life" costs must be taken into account.
- Contract must consider traffic in "hand over" condition. Contract must consider smoothness and Pavement Condition Index versus number of ESALs applied.
- Owners and financiers have their own designers, legal, and maintenance advisors that often will disagree with the design/build team. How are these conflicts handled?
- How are change orders to be handled – contingencies, builder pay, and financier pay?
- Cost (profit) sharing in value enhancements and innovations.
- Ethical consideration for designers and engineers.
- Schedule-driven builders versus perfection-driven design engineers.
- Third party reliance on engineering documents (bondholders, rating agencies, SEC, underwriters, etc.).
- What should reliance documents look like (limitations, qualifiers, assumptions, disclaimers, etc.)?
- Internal communications – how to be open, honest, and complete with the design/build team.
- Hazardous materials ownership and potential delays.
- Alternative Technical Concepts or ATC, Alternative Design Concepts or ADT, etc. Owner treatment - independent evaluation to eliminate prideful protectionism.
- Ownership and protection of innovations and alternative design/construction techniques.
- Owner canceling project after proposals are complete – ownership of proposals and reuse of concepts and ideas.
- Differences between concessionaire/builder/designer business models. Cash flow, risk/reward, insurance, fee structure, billing methods, etc.
- Public resistance to tolling – how can proposal teams support the owner.
- Owner/team sharing innovations/savings.
- Third party review of designs – picky or hypercritical?
- Changed conditions –
    - Unanticipated soil conditions
    - High water
    - Fill or deleterious materials
    - Land owner alteration – mining
- Pressure to reduce costs resulting in faulty or unserviceable designs.
- Owner delay in the proposal process.
- Owner's representatives' role – advisory, authority, or neutral – handling appeals.
- Risk allocation – contractual process – fairness or just risk avoidance.

- Payment to unsuccessful proposers should be sufficient to make them whole for proposal preparation costs.
- Prequalification of proposers to limit the cost of preparing and reviewing proposals.
- Dealing with unavoidable external pressures – NAFTA, vehicle weight allowances, speed limit changes, vehicle designs, etc.
- Diversion of productive staff in proposal preparation.
- Selection criteria – best value, best price – role of qualifications, price vs. experience.
- Inspections/testing – advisory or acceptance – given the 30-50 year lease are these appropriate? Should owner dictate quality or just performance?
- Scope creep during and after the proposal process.
- Accuracy of owner investigations, particularly geotechnical and subgrade, can significantly affect cost of proposal, conservativeness and accuracy of pavement design.
- Is success fee adequate compensation for risk and cost expended?
- Proposal preparation impact on other segments of the business.
- Pavement design risk vs. reward vs. responsibility.
- Flexibility to innovate.
- Schedule impacts – nights, weekends, overtime, etc. (100% commitment to proposal)
- Personnel impacts – quality of life vs. compensation.
- Letter of credit – differences between European and US definitions.
- Team structure – who is conflicted out.
- Competitiveness of "free route" versus "toll route" – public entity competition.
- Public perception of "foreign" ownership of public facilities.

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Design-Build Projects – Achieving Fair Allocation of Risk between the Contractor and Design Professional

ACEC Risk Management Committee

For design professionals on design-build projects, being under contract to the design-builder rather than the project owner can create some unique challenges, some of which can amount to a serious fault in the design-build delivery system.

One of these challenges comes in the form of inappropriate allocation of risk to the design professional. During the contracting process, the owner shifts its risk to the design-builder through the Owner/Design-Builder Agreement, and the design-builder then seeks to "flow down" these contract terms, even those not appropriate to design services, to the design professional. The flow-down of inappropriate contract terms creates a risk that far outweighs the design professional's "reward" or profit, which is typically a relatively nominal fee in comparison to total project construction cost.

In this paper, we make the business case for reasonable risk allocation. We describe the flow-down problem, explain why all parties to the design-build project are better off with a more equitable distribution of risk, and suggest some possible solutions.

The Flow-Down Problem

For example, suppose the Owner/Design-Builder Agreement includes the following provision: "The Design-Builder warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects." (The contract defines "Work" to mean both construction *and* design.).[1] The design-builder includes this language in all of its subcontracts. For the construction subcontractors, this language is no big deal.

But it's a different story for the design professional, who knows that a warranty of defect-free performance is not only beyond the coverage of its professional liability insurance, but likely lies outside of the realm of reality as well. No design can truly be "defect-free," and the law does not require architects and engineers to perform to this unattainable standard.

Design professionals, of course, have experience in negotiating these issues, at least in the design-bid-build context. Project owners frequently propose professional services agreements with unreasonably high standards of care. While the design-builder is likely to have heard and may agree that the design-professional's performance is governed by the "standard of care" and not perfection, the design-builder may feel it has no choice but to flow the warranty of defect-free performance required by the Owner/Design-Builder agreement down to the design

[1] This, in fact, is the approach taken in the AIA Design-Build documents. The Owner/Design-Builder Agreement (AIA A141-2014) calls for the design-builder to warrant construction *and* design. The design-builder thus assumes all risk for design, including non-negligent design defects – a risk that would ordinarily be borne by the owner in a design-bid-build project. Note that this warranty is *not* flowed down to the Architect in the Design-Builder/Architect Agreement (AIA B143-2014), which includes a normal, negligence-based standard of care for the Architect's services.

professional.[2] If the design-builder does not, then it risks being stuck with the liability for design that is non-negligent, but still falls short of the defect-free warranty standard.[3]

Aggressive flow down of unreasonable (and perhaps uninsurable) contract terms need not be an essential element of the design-build delivery system. One way to influence the contract terms is for the design professional to have a "place at the table" – literally or figuratively – during formation of the design-builder's contract with the owner. This creates an opportunity for the design professional to shape the contract terms that ultimately will be flowed down, perhaps keeping objectionable terms out of the prime agreement in the first place.

Realistically, however, some owners are attracted to design-build precisely because they believe they can transfer all project risk to the design-build team, and they will resist overtures toward a fairer allocation of risk.

The Business Case for Fair Risk Allocation

So if the design-builder is "stuck" with the Owner's contract terms, *must* it flow them down to the design professional? The answer, of course, is no. In fact, a fair allocation of risk and reward may dictate that the risk remain with the design-builder.[4] The Design-Build Institute of America (DBIA) states that "(c)ontracts used on design-build projects should be fair, balanced and clear…" and "should reasonably allocate risks to the party that is best capable of addressing and mitigating the risk."[5]

Typically the fee the design professional will collect for its professional services will be dwarfed by the profit reaped by the design-builder. Hence it is more appropriate for the design-builder to accept a greater share of the risk. The alternative of trying to balance the design professional's risk and reward by increasing the design professional's fee is not really an option. The fee that the design professional would need to charge for a design that even comes close to "defect-free" is certain to be much, much more than the design-builder can spend and still win the job.

Beyond the "fairness" issue, what other arguments can the design professional make that the fair allocation of risk is in the best interest of both the owner and the design-builder?

DBIA strongly promotes collaboration within the owner-builder-designer team as one of the greatest benefits of choosing the design-build project delivery method. In an unfair risk climate, collaboration is likely to go out the window. In addition, the design-build goal of minimizing the use of prescriptive requirements, while maximizing the use of performance-based requirements, provides an opportunity for design innovation that is likely to be squashed by an unfair risk climate. Further, unfair allocation of risk may discourage the best innovative design firms from agreeing to join a design-build team, limiting the pool of qualified design professionals willing to get involved in the project.

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[2] As with all projects, client selection is a key element of risk management in design-build. A reasonable design-builder client values the contributions of the consultant and will consider mutually-acceptable solutions to the design professional's risk management concerns.

[3] Note that contractors often take on risks of this type. They routinely warrant their work, which can include elements of delegated design. They consider these risks justified in light of the profits to be made on the project.

[4] As discussed in Footnote 1, this is the approach taken by the AIA's Design-Build agreements. The design-builder warrants the design and construction, but does not flow the design warranty down to the architect.

[5] DBIA's 2013 document, *Design-Build Done Right: Best Design-Build Practices* provides an excellent guide to best practices related to the procurement, contracting and execution of design-build services.

But what if the design-builder still refuses to provide fair contract terms? Are there other ways to keep the design professional from having limitless liability for risks it cannot control?

Risk Allocation Clauses – Capping the Risk

The design professional should consider negotiating contract provisions that set reasonable limitations on the additional commercial risks that can arise when the design professional is directly subcontracted to the design-builder.

Many design professionals are familiar with "limitation of liability" clauses, in which the design professional's total liability to its client – in this case the design-builder – is limited to a certain amount. Examples of this type of contractual provision can be found in Exhibit F (*Allocation of Risk*) to the EJCDC D-505 (2009) (*Subagreement between Design/Builder and Engineer for Professional Services*), which offers three different clauses limiting the engineer's liability to, respectively, the total compensation received, the amount of insurance paid, or a negotiated dollar amount.[6] AIA documents also contain a discussion of limitation of liability clauses and provide model language that might be used as a starting point for development of a limitation of liability provision.[7]

Whether or not the design-builder agrees to a global limitation of liability, the design professional should consider using limitations of liability to manage *specific* flow-down risks of concern to the design professional. The EJCDC document mentioned above includes several contract clauses that can be used to achieve a more equitable allocation of targeted risks. These include an optional waiver of consequential damages clause that allows for the exclusion of specified damages that "may be of special concern because of the nature of the project or specific circumstances."[8] Clauses may also be used to manage the risk of change orders up to a negotiated amount.[9]

Such risk allocation clauses are not new or unusual in contracts for design professionals' professional services. Their use is sufficiently widespread that some professional liability insurers offer premium discounts for policyholders whose contracts include them. And, as noted

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[6] For example, EJCDC D-505, F5.11B.3: *Engineer's Liability Limited to the Amount of $ ___*. Notwithstanding any other provision of this Agreement, and to the fullest extent permitted by law, the total liability, in the aggregate, of Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants, and any of them to Design/Builder and anyone claiming by, through, or under Design/Builder for any and all claims, losses, costs, or damages whatsoever arising out of, resulting from, or in any way related to the Project or the Subagreement from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability or breach of contract, or warranty express or implied of Engineer or Engineer's officers, directors, partners, employees, agents, or Engineer's Consultants, or any of them shall not exceed the total amount of $___.

[7] *See* AIA Document B503™–2007, *Guide for Amendments to AIA Owner-Architect Agreements*.

[8] EJCDC D-505, F5.11B.2: *Exclusion of Special, Incidental, Indirect and Consequential Damages.* To the fullest extent permitted by law, and not withstanding any other provision in the Agreement, Engineer and Engineer's officers, directors, partners, employees, agents, and Engineer's Consultants shall not be liable to Design/Builder or anyone claiming by, through, or under Owners for any special, incidental, indirect, or consequential damages whatsoever arising out of, resulting from, or in any way related to the Project or the Subagreement from any cause or causes, including but not limited to any such damages caused by the negligence, professional errors or omissions, strict liability or breach of contract, or warranty express or implied of Engineer or Engineer's officers, directors, partners, employees, agents, or Engineer's Consultants, or any of them, and including but not limited to…"

[9] EJCDC D-505, F5.11B.1: "…Design/Builder agrees not to sue and otherwise to make no claim directly or indirectly against Engineer on the basis of professional negligence, breach of contract, or otherwise with respect to the costs of approved Covered Changes unless the costs of such approved Covered Changes exceed $____, and then only for an amount in excess of such sum. Any responsibility of Engineer for the costs of Covered Changes in excess of such percentage will be determined on the basis of applicable contractual obligations and professional liability standards..."

above, well-known industry form contracts like the EJCDC and AIA documents offer such clauses as a means for the parties to negotiate a fair allocation of risk.

It is important to understand that a risk allocation clause is not an "exculpatory" clause or an attempt by design professionals to evade responsibility that is rightly theirs. Rather, it is a reasonable means of balancing a design professional's relatively modest fee (particularly in comparison with the design-builder's compensation) with the risks assumed by the design professional in its contract with the design-builder, particularly those risks that are beyond the design professional's control and beyond the coverage of the design professional's professional liability insurance.

Courts in many states have upheld risk allocation clauses that provide reasonable limits on the ultimate commercial exposure for design professionals. That said, it is absolutely essential to consult with experienced legal counsel who can advise not only about enforceability in the applicable jurisdiction, but also about crafting clauses that are likely to be enforced under applicable law.

Design Contingency – Funding the Risk

Another tool that the design professional can use to manage the risks of design-build projects is a design contingency fund established by the design-builder or owner to cover the design risks that are not substantially under the design professional's control. Contingencies are especially important in the design-build environment because the design-builder typically gives the owner a fixed price based on partially completed design documents (say, 30% or less). This necessarily increases the risk of additional construction costs and design errors or omissions.

A design contingency can work with and complement a risk allocation clause. The design professional will need to work closely with the design-builder to establish both the dollar amount of the fund, and the purposes for which it is to be used. Those might include:

- Owner-mandated changes in design, even though the proposed design meets the project's performance specifications.
- Design changes caused by the owner's lack of clarity or consistency.
- Re-design necessitated by external factors, such as code and regulatory changes or unpredictable interpretations by government officials.
- Re-design following discovery of differing site or subsurface conditions.
- Design changes required by the contractor, resulting from a "value engineering" exercise or other contractor-driven changes, even though the proposed design meets the project's performance requirements.

Conclusion

For project owners, one of the chief benefits of the design-build delivery model is that it creates a single point of responsibility – and risk – for design and construction. Having contracted to bear ultimate responsibility for design and construction, the design-builder may seek to flow all of the assumed design risks to its design professionals. The design professional must consider whether it is reasonable to accept these risks in light of factors such as –

- Whether the risk is proportionate to the reward (profit) that the design professional will receive for the project;
- Whether the design professional has the ability to control the risk; and

- Whether the risk is covered under the design professional's professional liability insurance.

Ideally, the design-builder will be receptive to the design professional's concerns, and willing to retain risks that, if flowed down, would cause the design professional serious risk management concerns. But, inevitably, there will be times when the design-builder insists on flowing down risks that the design professional normally would not accept. In such cases, risk allocation contract clauses and design contingencies may afford design professionals and design-builders a reasonable means of reaching a mutually-acceptable allocation of risk.