

Our Transportation System is in Crisis – 251

The series on Design-Build continues from the last two weeks. The previous Government had an obsession with the DB approach, as it considered that with this approach the projects will be implemented with fewer headaches for the Client and will also give superior value for money when compared with the traditional Design-Bid-Build (DBB) model. That is, they promoted that with DB, the numbers of change-orders and disputes between the designer and constructor will vanish, and that the Client will receive a better, faster, cheaper project.

The Current Government has given its intention to implement a series of infrastructure projects with the stated objective of: (a) Best Value for Money, and (b) Maximum utilisation of local resources both design and construction.

The Texas Council of Engineering Companies paper entitled, 'Design-Build and Alternative Project Delivery in Texas,' published in April 2004, stated that "...we do not see significant evidence that on the majority of civil engineering-type construction design-build will offer significant savings of time or money. They suggest that while DB procedures may expedite projects by allowing some overlap in the design and construction phases of a project, common sense and caution should prevail before getting aboard.

Some of the common sense approaches they recommend to bring benefits to clients, include the following: (a) value engineering and construction risk management; and, (b) DB requires a great deal of preparation to develop the process and sort out risk allocation, so an early engagement of designers in DBB can significantly reduce front-end time of the project.

In theory, the designer and constructor work nicely together in DB, and the client has a single point of contact and a single point of responsibility, and disputes between designer, contractor and client are minimal. The Texas Council argues that disputes arise about the same issues that are disputed in the traditional system – indemnity agreements, what bonding or insurance applies to what sorts of claims, who has responsibility for design services covered by professional liability design and responsibility for changes, limits on liability, and similar issues.

Next the authors discuss the potential for conflicts of Interest. Under the traditional system, the designer is the agent of the client and has an ethical obligation to protect the owner's interests, and has a contractual obligation to identify contractor work not in accordance with plans and specifications. The contractor has an incentive to identify design errors. The nature of this arrangement provides inherent checks and balances.

In a design-build arrangement, where the designer is part of the contractor's team, these protections are diluted or absent. In Trinidad and Tobago this can and will lead to DB contractors demanding the change in the quality of the design in order to meet the fixed schedule and cost, and more importantly to maximize profits. This problem usually leads clients retaining a client's representative to monitor design, schedule, and cost. These induced checks and balances create additional contact personnel and points of responsibility, and so reduces the theoretical strength of design-build, and of course, adds to the cost of the project.

The authors then advise that DB places strong demands on the client to be clear about what the project is seeking to achieve. Cransberg,

Koch, and Molenaar, in their book, 'Preparing for Design-Build Projects: A Primer for Owners, Engineers and Contractors,' (2006), suggested that the Request for Proposals (RFP) should contain well-prepared performance requirements, performance criteria, performance specifications, and prescriptions specifications; and that a Design Criteria Consultant: will work with the client to help develop the RFP.

Interestingly, the Texas Council states "For all the clamour over design-build in the transportation arena, most people conversant with highway construction know that the primary delays in highway projects are in the environmental, right-of-way acquisition, and utility relocation areas, not design and construction." This is true even in in TnT: the biggest single highway project to-date, the Uriah Butler Highway dualling, done in the early eighties, was delayed by acquisition matters, and not design or construction.

Another admonition given by the authors is concerning public involvement. In civil engineering projects, more typically than facility projects, there is extensive public interest regarding siting, design, and related considerations. In DB projects, final designs are usually not developed until a project is well underway, so the public is not aware of what is happening until significant time has passed.

Finally, the Texas Council addressed DB as a Business Model for the Design Industry. "*In the traditional model, there is a cost associated with being selected by an owner, but rarely does the selection process involve significant pre-design of the project. In a design-build process, however, from two to five firms may be required to essentially perform preliminary engineering, or in some cases detailed design, of a project. For*

the unsuccessful proposers, this can be a significant cost. That is why the industry [abroad] has promoted the idea of stipends for unsuccessful proposers, even though stipends rarely cover the cost.”

Continued.

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