

Industrial Cases 2

– O’Hare Modernization Program/Parsons Brinckerhoff/Kiewit –



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Any party needing a new facility or building requires two primary services: design and construction. Whether these services are procured under a single contract (design-build), separate contracts (design-bid-build) or other delivery arrangement, it’s logical to expect that prudent buyers of these two, very different services would employ some method of monitoring and verification. In practice, this does not occur as it applies to the design service.

Most will agree that monitoring construction for conformance with contract requirements is a deep and well established field. There is significant understanding and agreement (even if not a uniformly effective application) as to the tools employed. These tools include techniques used to verify that the actual work is in accord with the design documents; that the work is being performed in the agreed-to sequence; is timely (that is, meets the established schedule), and that progress billings and contract changes accurately reflect true value. Testing agencies, scheduling consultants, code inspectors, bank and other financial consultants and various other specialists are employed to verify the conformance and performance of the construction process with the contract and design documents. ASTM standards are well developed with standard testing methods employed for assurances with requirements. Whether the monitoring services are performed by the

owner/buyer directly or through readily available consultants, the process is well developed.

In contrast, when it comes to design, the landscape is quite different. Here, the availability of effective oversight tools is irregular if not entirely lacking. That is, there are no commonly accepted methods and techniques used to verify conformance with client intent, schedule, document accuracy and other important components of the design assignment. It might be argued that there are typically attempts to verify conformance with a stated budget, but with varying degrees of success. Further, whether employed directly by the owner or through independent consultants, few individuals are particularly skilled, much less expert, at monitoring the design process on behalf of their client. Some clients with large and on-going building programs have developed internal capabilities for design oversight. In these cases however, the techniques used are usually customized by the individual client needs and are not the product of external education or adoption of any industry-recognized best practices or guidelines. In other instances of successful design oversight, the results are often attributable to a uniquely skilled manager using a combination of experience, communication and people skills rather than the application of standards and techniques acquired through training.

It is often argued that the dollar value of design is significantly less than the cost value of construction, typically a tenth or less, and therefore does not warrant such oversight. However, this argument fails to recognize the impact of design document quality and timeliness on project cost and quality.

On May 11th and 12th, the Charles Pankow Foundation and Design-Build Institute of America convened a group of selected building industry professionals that included the American Society of Civil Engineers, to tackle the challenge:

“The building design and construction industry has a compelling need for effective industry standard protocols, best practices, and other tools that will enhance design management practices and thereby materially improve building project outcomes.”

The workshop resulted in the identification of twelve critical obstacles impeding the development of a well established set of industry standard protocols, best practices and other tools that could be employed to enhance design monitoring and verification and, thereby, materially improve building project outcomes. These obstacles include:

- Lack of understanding by the owners
- Ambiguity of design milestone definitions
- Design status is inherently difficult to measure
- Corporate culture – lack of flexibility or trust
- Lack of design management training in design firms
- Lack of a common language between buyers and providers
- Lack of a certification program to recognize design management expertise
- Wide variety of internal design management practices
- Lack of understanding of the design process
- Lack of agreement on which measurements add value and which measurements do not
- Design process varies by organization
- Project types too diverse