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Practice Group:
Construction and
Engineering

Integrated Project Delivery: A Teamwork Approach to Design and Construction

What is Integrated Project Delivery?

Integrated Project Delivery (“IPD”) is an evolving, bold innovation in construction delivery. It generally contemplates the owner, the architect or engineer and the contractor all entering into one contract and functioning as a cooperative and collaborative team to design and construct the project with shared risks and rewards in the ultimate cost, schedule and quality of the overall project.

In simple terms, IPD is like a joint venture approach to design and construction. IPD represents a radical departure from traditional delivery methods that isolate responsibilities, liabilities, communication, risks and rewards with contracts that often lack incentives to cooperate and work toward the common goal of a successful project overall for everyone. Parties to an IPD team have incentives to do what is best for the project, rather than what is best for themselves. To motivate the design and construction team and get the best performance out of them, IPD generally favors a “carrot” approach; whereas, traditional delivery methods generally use a “stick” approach.

IPD typically utilizes Building Information Modeling, which is commonly referred to as “BIM”, a digital database that integrates the work of all project team members and generates two-dimensional, three-dimensional and four-dimensional (3D plus the project timeline) models, plans and reports. Alternatively, other internet-based documentation and information systems are used to share documents and information in a transparent environment.

IPD is an evolving delivery method based on broad concepts that can be customized on a project-by-project basis. There is no such thing as one way to do a project by IPD, and there is no need for a rigid definition of it. When a group decides to form a partnership and act as partners, they are free to define their relationship as they wish, and IPD is much the same. While there is no strict definition of IPD, the following basic concepts or themes are generally present:

1. One Integrated Agreement: The core team members, typically the owner, the architect/engineer and the contractor, all enter into a single contract. Thus, for example, the architect/engineer is responsible not only to the owner, but also to the general contractor, and vice versa. The core team members may create a single purpose entity (e.g., a limited liability company) that is jointly owned and managed and truly functions like a joint venture or they may enter into one common, tri-party agreement. Either method of contracting for IPD represents a much different contractual arrangement from Design Bid Build in which the owner enters into separate contracts with the architect/engineer and the general contractor, both of whom are responsible only to the owner. IPD has some similarity to Design/Build, in that there is a single contract. However, in Design/Build, there is a bilateral relationship between the owner and the design/builder, versus a multi-lateral relationship among all parties in IPD, and IPD is otherwise much different in its terms as noted below.
2. Shared Risk and Reward: The core IPD team members manage and share risks and rewards in the outcome of the project, usually its cost and time of completion, but any number of performance standards can be established (quality, sustainability, minority hiring, etc.). This is

Integrated Project Delivery: A Teamwork Approach to Design and Construction

generally accomplished by making part of the compensation of the architect/engineer and the general contractor contingent on certain goals being met and providing bonuses to them for exceeding these goals as an incentive. It's a win-win or lose-lose proposition for all involved.

For example, under a traditional delivery method, the parties may, for their individual benefit, use the maximum time periods allowed under their respective contracts to perform various tasks and take various actions. However, under the shared reward system of IPD, all parties have an incentive to perform quickly for the good of the overall project and to share in the group benefits provided in the single IPD contract.

One approach is to divide the compensation of each core team member into three categories: (1) direct costs, (2) overhead and profit and (3) bonus. The owner may agree to pay for direct costs unconditionally (except due to default, fraud, etc.); overhead and profit on the condition of meeting a targeted cost and schedule; and a bonus in the event that those goals are exceeded.

3. **Collaboration:** With IPD, plans, schedules and other information is not only shared, but developed jointly by the team. All parties, including the contractor, are involved from the inception of the project. Instead of each party having its own separate and isolated trailer or office on-site, some IPD projects literally use a so-called "big room", usually on-site, at which all parties are stationed in order to facilitate the exchange of ideas, collaboration and teambuilding.

To facilitate the teamwork approach with respect to information, Building Information Modeling ("BIM") and other internet technology is commonly used. A full discussion of BIM is beyond the scope of this Chapter. However, it is a tool that allows all of the IPD team members to collaborate on the design and avoid conflicts and errors in the plans. The IPD contract must address how BIM or other technology will be used, especially in terms of input, access, modifications, confidentiality, copyright ownership, technological compatibility, reliance on data submitted by others and limited or full responsibility for errors.

4. **Joint Decision-Making:** In the spirit of teamwork, IPD normally utilizes a committee approach to decision-making. To make decisions with respect to the project, unanimous approval may be required, votes may be weighted, veto power may be reserved in certain team members or the owner may be given the right to decide where consensus is not achieved.

Decisions with respect to different project matters will typically be handled differently. For example, the architect/engineer must be given sufficient say with respect to design issues to fulfill its obligations as the designer of record under state licensing laws and will likely have much less say with respect to construction issues. Regardless of how decision-making is structured, the core principle to be followed is teamwork for the success of the overall project.

A consequence of this approach is the need for regular meetings of all core team members, which may be viewed as burdensome, but is also considered necessary to achieve the full benefit of IPD. Joint decision-making is a concept not found in traditional delivery methods such as Design-Bid-Build.

5. **Dispute and Liability Avoidance:** A hallmark of IPD is minimizing the risk of disputes, liability and litigation in order to foster collaboration and a teamwork environment. This may be accomplished by establishing an internal dispute resolution process administered by a committee of the core team members, at least as an initial step prior to mediation, arbitration or litigation.

The parties may agree upon various ways to reasonably limit liability: they may release each other from liability for good faith errors in judgment, even if negligence is found, except to the extent that willful misconduct exists; to waive or limit liability for consequential damages; to a

Integrated Project Delivery: A Teamwork Approach to Design and Construction

financial cap on the liability of the architect/engineer and the contractor, except to the extent covered by insurance; and/or to provide a contingency fund as part of the project budget to pay for “good faith” errors which can reduce the profit sharing or bonus pool for the entire team. The IPD approach involves a level of mutual trust, respect and shared risk not found in the traditional delivery approaches.

Considerations When Selecting the Integrated Project Delivery Process

As a new delivery method, IPD is not familiar to many design and construction professionals, and those who are familiar with it may not have yet worked on an IPD project. Thus, for most in the industry, IPD involves a learning process and, possibly, some persuasion. Indeed, some parties may decline involvement in the project either due to lack of familiarity with IPD or nervousness with the level of trust and cooperation involved and the risks (and rewards) of having their compensation vary with the success of the overall project, some of which will be beyond their control.

Another consideration is that the time to conclude an IPD contract will likely take much longer than usual due to IPD being a relatively new delivery method and the simple fact that getting all of the core team members to agree on one form of contract to be entered into by all is an inherently more cumbersome process. On many projects using traditional delivery methods, the contracts are sometimes viewed as a routine, administrative matter with a fairly predictable negotiation. Traditional delivery methods such as Design-Bid-Build or Design/Build are so well-established that there is a tacit understanding of what the usual and customary contract terms will be prior to any discussion of them and prior to delivery of a draft contract. However, IPD carries with it no such clear connotation of what it will mean for any particular project or what its contract will provide.

The highly collaborative and cooperative, teamwork approach adopted by IPD necessarily requires significant participation by all parties. In plain terms, more time will be spent in meetings. However, the objective is that the burden of such interaction among the team members will result in the benefit of a better project overall for everyone, especially in terms of cost and schedule and the opportunity for bonus compensation, so it should be a trade-off worth making.

For IPD to work as it should, the parties need to be highly trustworthy, honorable and cooperative. These traits are certainly desirable with traditional delivery methods, but perhaps not as essential – each party can function independently in their respective “silo” and get paid in full for their services regardless of whether the project is a success.

For those who wish to utilize a traditional delivery method, but find one or more aspects of IPD appealing, they may wish to create a hybrid delivery method consisting of the desired traditional delivery method and certain elements of IPD. For example, the IPD characteristic of shared risk and reward can certainly be made a part of Design-Bid-Build or Design/Build or other “IPD-ish” arrangement that does not involve one integrated contract signed by all of the core team members.

When Should Integrated Project Delivery Be Considered?

Until IPD becomes a mainstream delivery method with a widely recognized organizational and legal structure, the extra time required to assemble the appropriate team, reach an agreement on basic business terms and then draft and conclude one IPD contract that all of the core team members agree upon, the project needs to be large enough and have a long enough time horizon to make such an effort worthwhile.

Integrated Project Delivery: A Teamwork Approach to Design and Construction

Additionally, IPD should be considered where the project has unique or complex features that could benefit from the collaboration, teamwork approach afforded by IPD. Examples would include corporate headquarters, mixed-use projects, research and development or other high-technology buildings, hospitals, prominent university buildings and museums. IPD does not appear to be well-suited for “cookie-cutter”, fixed design, high-volume productions such as a national pharmacy or big box retailer chain, tract housing or plain vanilla office or industrial buildings.

Finally, IPD requires an owner who is experienced in real estate development or, at least, willing to be deeply involved in the project and assisted by experienced professionals.

Whose Task Is It Anyway?

In over-simplified terms, with IPD, everybody plays a role in everything. For example, during the design process, although the architect certainly takes the lead role in preparing the design, all core team members meet regularly to explore ways to add value to the project by finding ways to save time or money and improve constructability, maintenance or operations. Whereas, in Design-Bid-Build, the architect often prepares the design without any input from the contractor (indeed, in a “pure” Design-Bid-Build project, the contractor is not even hired until the design has been completed).

While each party to a project using IPD basically performs the same role it does in Design-Bid-Build – the owner provides the site and the funding, the architect designs the project and the contractor builds it – they do so in a completely different context of collaboration, transparency, shared risks and rewards and dispute avoidance.

What Does the Owner Look For in an IPD Team?

Aside from the usual desirable characteristics of high competence, excellent reputation and competitive pricing, an owner in an IPD project seeks team members that are open-minded about trying IPD, have a track record of avoiding disputes and litigation, are congenial and trustworthy, willing to trust in the other IPD team members (prior positive work experience, or the prospect of future work, with the other team members would be very helpful), have experience with BIM or other internet-based technology to be implemented for the project and are flexible in terms of compensation so that they are prepared to be reimbursed only for direct costs if the project goes badly in return for having the opportunity to enjoy a bonus if the project goes well.

What Does the IPD Team Look For in an Owner?

An owner in an IPD project should be a strong leader and excellent communicator to facilitate the teamwork approach required by IPD. The owner should have significant expertise and experience with design and construction in order to be a meaningful participant in the collaborative process utilized in IPD. The owner must have some flexibility in its budget to accommodate the shared risk/reward system of IPD, especially with respect to paying a bonus if certain project goals are exceeded. Finally, the owner must be legally capable of doing an IPD project – many governmental entities lack the statutory authority to engage in IPD (not because IPD is viewed as negative for public projects, but simply because the laws have not caught up with this new delivery method).

Integrated Project Delivery: A Teamwork Approach to Design and Construction

The Impact of Schedule and Cost

IPD promises significant cost savings over traditional delivery methods, like Design-Bid-Build. With IPD, value is added and continuous improvement is achieved by the teamwork approach and participation by all core team members, including the contractor, from the inception of the project. The dispute avoidance feature of IPD is intended to lower risk and liability for all concerned. For the same reasons that IPD promises cost savings, it also promises schedule efficiencies beyond what traditional delivery methods offer. However, note that due to the time required to achieve consensus by all of the core team members on one form of IPD contract, it is common for the owner to initially enter into preliminary separate contracts with each of the core team members to allow their services to begin and avoid project delay while the IPD contract is being negotiated and drafted.

Special Concerns

Contract law in the United States, which is based on the English common law, contemplates a black and white world where one party is right and the other party is wrong. It is not structured to resolve issues in the world of IPD in which a team shares risks and rewards. Similarly, with multiple IPD team members contributing to design, through BIM or otherwise, ultimate responsibility for the design can become blurred (note that a licensed architect or engineer must be the designer of record under state licensing laws). Thus, the IPD contract is usually drafted in a manner that ultimately holds certain parties solely accountable for certain matters (e.g., bad faith, willful misconduct) while otherwise implementing a collaborative approach to the fullest extent possible.

What Are the Advantages of Integrated Project Delivery?

IPD has the potential to be a “win-win” for all participants in the design and construction of a project. Specific potential benefits include the following:

- (i) Cost savings for the owner (potentially, the costs of construction, operations and maintenance) resulting from the incentive for the team members to earn bonuses
- (ii) Faster completion for the owner resulting from the incentive for the team members to earn bonuses
- (iii) Bonuses paid to the designers and contractors for achieving cost savings, faster completion and other project goals
- (iv) Reduced risk of design and construction defects resulting from the collaborative, teamwork approach
- (v) Reduced liability for the designers and contractors resulting from the agreed upon limitations of liability and dispute avoidance

What Are the Disadvantages of Integrated Project Delivery?

IPD is not for everyone, and it may not live up to its full potential. Please note the following possible disadvantages:

- (i) Highly capable designers or contractors might be unfamiliar with IPD and decline to participate in an IPD project

Integrated Project Delivery: A Teamwork Approach to Design and Construction

- (ii) Getting all of the core IPD team members to agree on one form of multi-party agreement could prove to be impossible or exasperating
- (iii) An owner might have difficulty securing financing because lenders are not familiar with IPD or dislike its approach for any number of reasons, such as the potential for bonuses to be paid or the limitations of liability
- (iv) Limiting liability necessarily means that the party that suffers the economic damages or other adverse consequences will be left “holding the bag” (the insurance industry is currently exploring possible products to insure against such risks to facilitate IPD)
- (v) The bonus compensation system requires that budgets and schedules be scrutinized carefully to ensure that they are fair and reasonable and not inflated
- (vi) The teamwork approach must be supported by strong leadership and management to ensure active, earnest and positive participation and avoid lax participation – IPD is no place for “slackers”

IPD is perhaps the most exciting innovation to hit the design and construction industry in decades. With the potential for significant cost savings and efficiencies not experienced under traditional delivery methods, plus the appeal of a collegial, collaborative, teamwork environment, IPD could become the leading delivery method in the industry.

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