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Contractually altering integrated project delivery's success

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Contractually altering integrated project delivery's success

Abstract

Invigorated Project Delivery (IPD) is one of the newest delivery methods within the construction industry. This new approach revolutionizes the way projects are conducted by creating a collaborative work environment that harnesses the resources of its participants to create a finished product that is both of a higher quality and cheaper. This is made possible through the delivery method's unique focus which prides itself on its reputation for increasing efficiency levels and reducing project waste. Even though IPD is wonderful delivery method that looks great on paper, it does not change the fact that the delivery method is currently struggling to produce successful projects.

Many professionals ignore the issues surrounding failed projects and merely push IPD off as a failed process. These individuals believe it is the delivery methods fault by claiming the process is flawed. However, such individuals are neglecting to consider alternative issues surrounding their failed projects. After all, the delivery method is not the only piece of the project delivery puzzle. The IPD contract provides detail on how a project will be delivered. Essentially everything there is to know will be located within a project's contract. My theory is IPD contracts are limiting the success of this delivery method.

This research thesis will set out to accomplish two goals: First, determine if IPD contracts are limiting the delivery methods success. Upon determining the merit of this claim, the research will then tum to the areas of the contracts that may be responsible for limiting IPD's success.

IPD is currently believed to be a failed method. I hope this thesis shows otherwise.

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CONTRACTUALLY ALTERING INTEGRATED PROJECT DELIVERY'S SUCCESS

By

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Abstract

Invigorated Project Delivery (IPD) is one of the newest delivery methods within the construction industry. This new approach revolutionizes the way projects are conducted by creating a collaborative work environment that harnesses the resources of its participants to create a finished product that is both of a higher quality and cheaper. This is made possible through the delivery method's unique focus which prides itself on its reputation for increasing efficiency levels and reducing project waste. Even though IPD is wonderful delivery method that looks great on paper, it does not change the fact that the delivery method is currently struggling to produce successful projects.

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Background Information

Over the past several years the construction industry has been hit hard by a declining economy. Construction jobs once abundant in the late 1990's are now less plentiful. The industry's inefficient techniques that at the time were of no consequence, are now under close scrutiny for wasting millions of dollars each year. A proposed solution to this wide spread industry problem was the utilization of an Integrated Project Delivery (IPD) (Smedley, Integrated Project Delivery).

The American Institute of Architects defines *Integrated Project Delivery* as:

A project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize project results, increase value to the Owner, reduce waste, and maximize efficiency through all phases of design, fabrication, and construction” (American Institute of Architects, AIA Document A295-2008 §1.3.13).

It is also important to note that IPD is a multi-party contract instrument which uses a collaborative, consensus-based decision process to create a shared risk shared reward project environment. This collaborative approach to project delivery was groundbreaking, especially when comparing it to the industry’s previous traditional delivery methods. Before IPD, traditional delivery methods were used to delivery a project. These methods, now considered wasteful, were usually very individualized processes. If any collaboration occurred within a traditional delivery method it was done so as a last resort and in a very impersonal fashion. This is where IPD and traditional delivery methods differ. IPD requires Owners, Contractors and

Design Professionals to collaborate with each other during every stage of the project. Unlike traditional delivery methods, IPD is a very personal form of collaboration. According to the article “A New Method for Project Delivery” from the February 2011 issue of *Constructech Magazine*, “Traditional project delivery methods in the construction industry are a thing of the past.” The article further states that, “Today’s projects are more focused on a collaborative and integrated approach” (Smedley, A New Method for Project Delivery). The article “The True IPD,” also published within *Constructech Magazine*, defines this collaboration as the, “integration of people, process, product, and production for the purpose of delivering improved outcomes by harnessing human engagement and creativity” (Smedley, The True IPD). This form of collaboration became an accepted norm shortly after being introduced and would later be viewed as the ideal way for improving project efficiency. The idea behind this collaborative effort is to increase a project's level of efficiency, while simultaneously producing a higher quality product. The subsequent reduction of waste resulting from an increase in efficiency also promised to produce a higher profit margin for the Contractors involved in the service aspects of the delivery method. The Owner's benefit for using IPD is to obtain a better finished product (Smedley, The True IPD). IPD provides a better product by incorporating the decisions of the Owner into every stage of the delivery method.

The Problems IPD Creates

Although IPD is the deemed the intended solution to the industry's efficiency problem and has been used on countless projects, it is still widely misunderstood by a many experienced individuals in the construction industry. The article "What It Means to IPD" from *Constructech Magazine* claims that, "one of the biggest challenges is getting a common understanding of what IPD truly means" (Smedley, What it Means to IPD). The article suggests there is at least one if not two problems currently effecting IPD. First, there is discerning lack of knowledge within the construction industry of what IPD means. Secondly, the ambiguity of the contract's definition for IPD doesn't clearly define the rolls of contract participants. Whether one or both of these issues are the cause of IPD problems is not important. What is important is that both issues revolve are around the language of the IPD contract. The intended meaning of IPD should be clearly expressed within the contract so that a reasonable person is able to understand it's meaning. The idea that IPD's problems may be contract related and not the cause of fundamental flaws in the delivery method, is in opposition to what many industry professionals currently believe.

In the *Constructech Magazine* article "Keeping an "I" on Project Delivery" It states while discussing IPD that, "one challenge was just to get everybody to understand the new way of contracting" (Inglesby, Keeping an "I" on Project Delivery). Contracts that are properly structured should speak from themselves with regards to what is required of the contracting parties. Even for someone with no prior IPD experience, the wording should be such that a reasonable person should be able to identify their areas of responsibility. This information should be present in any reliable contract for the sole purpose of allowing those entering into the

agreement to be aware of what is required of them. A professional within the industry should have no problem understanding the boundaries and contractual obligations of a properly worded IPD contract. Contracting parties are also highly educated individuals and should not be considered incompetent and unable to understand IPD agreements. In fact, quite the opposite is true. Typical individuals are selected to participate on specific projects due to their experience in the industry. More importantly, these individuals are often selected because of their IPD experience when IPD is being used. One cannot claim the problems of IPD as relative to that of a new concept either. The American Institute of Architects has had years to establish standardized IPD agreements. Considering that properly designed contracts should have clearly stated delivery functions and that those entering into IPD agreements are competent individuals - it begins to suggest there may be a problem concerning the contracts used for IPD. It might be the contract terms of IPD agreements are poorly chosen leaving individuals to interpret them differently. If this were true, it would pose a major problem for IPD. If the wording of a contract is ambiguous in a way that causes confusion, it will subsequently effect the profit, quality and delivery of the project. Furthermore, if such ambiguities are found to be problematic, as they have been with other IPD projects, it would imply a plausible explanation as to why IPD's results are inconsistent. All of this might suggest that the actual contracts that make IPD possible are also the cause of the problem that is preventing IPD from reaching its full potential.

The construction industry is currently divided on their opinion of IPD. Some professionals completely disagree with the method while other feel its the way of the future. One such proponent in support of IPD is Tom Leonidas Jr., Vice President of Electrical Engineer at Sparling. In his article "Integrated-Project-Delivery Boosters Ignore Many Flashing Red Lights"

published by Engineering News Record, Mr. Leonidas states that, “The only way you can truly understand IPD is to actually go through two or three [IPD] projects from beginning to end” (Post, Integrated-Project-Delivery Boosters Ignore Many Flashing Red Lights).

Unfortunately, this positive outlook of Mr. Leonidas also identifies one of IPD's problems. His quote suggests that IPD is inherently difficult to understand by suggesting that one has to undergo a minimum of two projects before they can truly understand how it works. This is unacceptable for an industry that deals in multi-million dollar projects where a one or two percent cost differential means the difference between a profit and a loss. Mr. Leonidas suggests that the problems with IPD projects are only temporary and will go away as Contractors gain experience. It may be presumptuous for anyone to simply brand the Contractors as the source of failed IPD projects. Without further analysis, nothing is learned and the industry could be destined to repeat the same failure. Instead, one should give careful consideration to the parties involved to gain further insight as to why IPD projects are failing. In which case it might become apparent that the IPD contracts themselves are the source of the problem and not the fault of the Contractors. An IPD contract must list how it's delivery method is conducted. The statements made by Mr. Leonidas suggest that these descriptions are insufficient to obtain a general understanding of IPD. This alone should raise the question of whether IPD contracts are designed with the proper list of instructions to meet the needs of the industry. Perhaps it is the ambiguous contracts of IPD that is preventing this delivery method from reaching its full potential.

Currently there is strong evidence to support that IPD contracts are insufficient when it comes to expressing the specific type of work that is required. In the article “An Unprecedented

11 Partners Propel Integrated Project Delivery at Sutter's New California Hospital" published by the Engineering News Record (ENR), it states while referring to IPD that "The actual effort required was underestimated on both the design and construction sides" (Post, An Unprecedented 11 Partners Propel Integrated Project Delivery at Sutter's New California Hospital). A properly prepared contract should clearly list everything that is expected of the contracted parties. If this is the case then one should never misinterpret the amount of work that is required. This is the primary reason a scope of work is included with the contract. A schematic design must be approved before construction can begin. With this information, the Contractors should have enough information to realistically bid on the amount of work required. A project that fails from this point can only be the result two things. Either the project team fell apart because they were unable to work together or there was a fundamental flaw in the IPD contract depicting Contractor responsibility. Considering the articles title is "Unprecedented 11 Partners *Propel* Integrated Project Delivery at Sutter's New California Hospital," it becomes apparent that this project failure was not the result of a poor collaborative effort. This project had eleven parties collaborating under IPD. In order for a project of this size to succeed, the level of collaboration would have to surpass anything the industry had seen to date. The failure of this project was not due to the lack of collaboration. In fact the level of cooperation on behalf of the Contractors was high. The post project indicators pointed to fundamental flaws in the IPD contract as the blame for the project failure. The industry professionals however maintain that the IPD contract is sound and not to blame. Perhaps they are correct in their statement but by not consulting with others to arrive at a consensus it does not resolve the problem for future projects.

Anyway you look at it, IPD has fundamental problems. Mark Konchar, Corporate Vice President for National Integration for Balfour Beatty Construction, illustrates this best by saying, “IPD is not for everyone” (Smedley, What It Means to IPD). Some projects are better managed by methods other than IPD, but that is no reason to give up on IPD all together. Most if not all delivery methods can be used for any type of construction project. The key factor in determining the most appropriate method is based on a flexibility. Collaboration throughout the entire project makes IPD an extremely flexible method. Think of an IPD method in terms of working as a single group. When a group performs an activity, there is a consensus for every decision. The same group consensus is how an IPD method works. Members of a group may disagree with one another, but it does not subsequently affect their forward direction. Flexibility is what makes problem resolution within a group work. The same can be said for collaboration efforts within IPD. If an issue arises on a IPD project, collaboration makes it so the subsequent issue does not affect the success of the project. The IPD method as it is intended is a flexible delivery method. However, IPD contracts in their current form prevent such flexibility from occurring. This fundamental problem inhibits the process for which it was designed. Such issues drastically effect IPD’s reputation and cast a bad light on Contractor delivery methods. If a problem of this nature was to occur while using IPD, most professionals blame the delivery method and ignore the possibility of contract flaws.

Incentives are a major contract issue that are currently affecting the success of IPD delivery methods. In discussing incentives, it is important to note that the level of effort needed to successfully perform IPD is much greater than that of it’s traditional counterparts. With traditional non-IPD methods, each party has their specific duties to perform. With this type of

agreement, contracting parties are not responsible for the work of each other unless specifically stated otherwise. With IPD, the responsibility surrounding the success of other Contractors is completely different. IPD requires that all contracting parties collaborate with each other during every phase of the delivery method. Contractors are required to work with the Design Professional to create a product that is both aesthetically pleasing and cost efficient. The Contractor then works with the Subcontractor to communicate the needs and the schedule of the project. Under IPD communicating is not enough, each party is also responsible for ensuring the success of each of the other parties. The Contractor also works with the Owner to establish and continually adjust the price throughout the project. These examples, in addition to the countless other examples of collaboration, illustrates the extensive IPD requires from its participants. Furthermore, the intended purpose of collaboration is to improve project efficiency by continually appraising and making adjustments to project procedures. To illustrate this concept, think of how a Contractor might collaborate with a Design Professional during the design phase of the project. The Design Professional will draft out what the Owner's need while communicating with the Contractor. The Contractor due to their expertise may suggest cost efficient alternatives to consider during the design phase. The Contractor is also providing their recommendation as to how the project can meet the Owner's design need while saving them money. This is usually achieved when the Contractor suggest an alternative design aspect that could satisfy the desired aesthetic appearance while costing less to build. These are considered normal collaborative services for IPD, but go above and beyond what is normally required in a traditional delivery method. If a party performed similar cost saving actions for a traditional delivery method they would generally be rewarded. Kurt Spieling, Architect and member of the

AIA, claims that, “Often times incentive plans and programs are put together rewarding the guys in the office for a job well done.” When asked about the incentive programs IPD offers, Mr. Spieling stated that these “incentives can be tricky” (Inglesby, Keeping an "I" on Project Delivery). An incentive is something that essentially motivates an individual to do a better job. If IPD offers it’s contracting parties ambiguous incentives terms without a clearly defining how those incentives are to be rewarded, then what motivation does the Contractor have added effort to save the project money? To be effective, incentives need to be in the contract and clearly stated. In addition, Mr. Spieling states while discussing IPD incentives that:

They (IPD) rewards the construction manager and their team, the Architect and their team, the engineer and their team. But the people who have the biggest ability to affect this change are the workers in the field. Not many incentive plans address how we motivate people at that level to look for improvements and savings. Any plan that could in fact get at that probably would unlock more savings than we do by rewarding a construction manager because they manage change orders, or rewarding an Architect because he did a good set of documents. That's one of the missing links right now (Inglesby, Keeping an "I" on Project Delivery).

The incentive plans of IPD contracts definitely need adjustment. This suggests that other areas of the IPD contract are insufficient as well.

The idea that IPD is riddled with problems is in a way paradoxical. The delivery method that was created to solve the industry’s problems is a problem in itself. IPD seems conceptually like the perfect method for delivering a project. Unlike all other methods IPD reduces waste,

increases efficiency and is able to utilize the knowledge of its contracting parties during every phase of the project. The idea of IPD being unsuccessful seems counterintuitive when these facts are taken into account. A delivery method that utilizes the concepts of collaboration and waste reduction should not experience wide spread failure. That is why many professionals believe the delivery method's process is to blame.

A growing number of top attorneys believe that IPD contracts need to be revisited, redefined and perhaps even redeveloped so that IPD can reach its true potential. Bill Quatman, Architect and attorney for one of the largest integrated design-build firms in the United States, is one of the industry's leading professionals on contract language. In the article "Model Contract for Integrated Project Delivery Is on Hot Seat" he warns, "not to use these model [IPD] documents without competent legal counsel review." Mr. Quatman further states that a few of the clauses in the IPD contract are flawed, unenforceable and could even be illegal in some states. (Post, "Model Contract for Integrated Project Delivery Is on Hot Seat"). Based on the history of IPD's problems it could be that Mr. Quatman is onto something. Nevertheless, the American Institute of Architects (AIA) counsel refuses to consider IPD contracts as the blame. Kenneth Cobleigh, AIA counsel member, disagrees with Mr. Quatman saying, "I don't believe the documents are flawed." Mr. Cobleigh assures professionals that the AIA IPD contracts meet the needs of the industry while remaining universally enforceable (Post, "Model Contract for Integrated Project Delivery Is on Hot Seat"). What is more interesting is that Mr. Cobleigh does not give a specific reason as to why AIA feels their contracts are not to blame. He merely claims it is not their fault.

Could it be that these individuals like Kenneth Cobleigh who support IPD, have neglecting to dig further into the underlying cause of their problem. Based on the correlation of known problems, it appears that IPD contracts could be restricting the delivery method success. Furthermore, it seems unrealistic to simply blame the delivery process before investigating why these problems occurred. The contract associated with IPD is suppose to include all information needed to successfully perform the project. This suggests that IPD problems must result one of the following two causes. IPD problems are either cause by the industry's inability to following directions, or a flaw in the contrasts. The individuals who typically participate in IPD contracts are usually the best and brightest in the industry. Thus, it is highly probable that the latter possibility of IPD contract flaws is the primary cause for limiting the delivery method's success. However, which sections of the contract are currently limiting the success of IPD?

IPD Contract Issues

The following section will take a closer look into the the American Institute of Architects (AIA) IPD contracts. In addition, this section will discuss the red flags, or problem areas, in these documents to determine whether IPD contracts are limiting the delivery methods success. To avoid confusion this section will be broken down into subsection. Each subsection will discuss a different AIA IPD contract.

AIA Document A195–2008 & A295-2008

The American Institute of Architect's website describe the specifics purpose of AIA Document A195–2008 as the standard form of agreement between the Owner and Contractor for some projects utilizing Integrated Project Delivery (IPD). This document provides insight into the project's terms of business and any unique conditions that maybe present. However, the document itself dose not include a description of the scope of work. Rather, it incorporates an addition document, AIA Document A295–2008, into its terms through with an incorporation by reference. An incorporation by reference is when a contract includes an additional contract into its terms. This can be done if a contract stipulates the terms of an additional contract into its agreement. If done correctly a incorporation by reference can include an entirely different contract into an original contracts terms (The American Institute of Architects, "Contract Documents: Integrated Project Delivery (IPD) Family").

AIA Document A295–2008 is incorporated into AIA Document A195-2008 by reference and provides this general conditions for this agreement. This document establishes the duties of the contracting parties and describes how they will work together (The American Institute of

Architects, "Contract Documents: Integrated Project Delivery (IPD) Family"). It is in this way that these two documents complement each other. One being the detailed instruction, A295-2008, where as the other is a general over view, A195-2008.

It is important to note that these contracts are stencils that are filled out by the Owner. These stencils utilize a *fill in the blank* approach for creating a contract. Here the Owner will fill in the appropriate information so that the contract can conform to a project's specific needs. Additionally, this mean that an Owner has the ability to modify the AIA contract stencil before it is agreed to and signed by the other parties. For contracts using tradition delivery methods this is a common practice and is usually very effective. However, this is not a contract for a traditional delivery method - this is an IPD contract. A contract that utilizes a new dclivery method and allows Owners to modify it's terms is creating a equation for disaster. These contracts also suggest that Owners may jeopardize the integrity of their contract by modifying its terms. Even the author of the AIA Document A195-2008, in a side note located within the document's first page advises an Owner to seek legal council. This notes states the following:

This document has important legal consequences. Consultation with an attorney is encouraged with respect to it's completion or modification (American Institute of Architects, AIA Document A195-2008).

This suggests that even the AIA contract writers are worried by the possible ramifications that may result from inexperienced Owners modifying IPD contracts. Lawyers go to law school for three years before they are comfortable making contracts. Considering this, it is no wonder the AIA contract writers are worried. Owners should not be allowed to modify an IPD contract without legal guidance from a licensed attorney. This could definitely affect the success of a

project delivered with IPD. Unlike traditional delivery methods, IPD lacks a universal understanding within the industry and its process is still defining itself with every project. IPD contract are just too new to permit contract modification and the fact that such is allowed could be restricting this delivery method's success.

Payment is one of the most important topics of a contract. It is usually the topic of most project issues and for this reason it's something the contracting parties should not take lightly. AIA Document A195-2008 Article 5 discusses payment methods and procedures. According to section §5.2.1 of A195-2008, the *application for payment* is used to obtain progress payments from the Owner. Additionally, A195-2008 §5.2.2 expresses that these payments are made on a monthly basis and that payments shall be calculated to account for the the amount of time until that months end. These and the other sections of article 5 are all standard procedures as far a project contracts are concerned. However, as we saw with modification, standard procedures normally conflict with IPD and this is no exception. Section §5.2.5 of A195-2008 is where the contract seems to conflict with the notions of IPD. A195-2008 Section §5.2.5 states that:

The schedule of values shall be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Application for Payment (American Institute of Architects, A195-2008 Section §5.2.5).

The worrisome issue here concerns the Architect's veto power. This section shows an application for payment can only be completed if an Architect approves of it. The Owner gives the Architect this veto power and hopes it will prevent error in the application for payment. However, how will

this idea of one party having power over another sit in a collaborative IPD environment? The whole point of IPD is success through collaboration. This collaboration should create a team atmosphere between the contracting parties where everyone is essentially equal, or at least viewed as such. In addition, what are the consequences if a Contractor should falsely take action upon a Contractor's applicant for payment? Section §5.2.9 of AIA Document A195-2008 states that:

In taking action on the Contractor's Applications for Payment, the Architect shall be entitled to rely on the accuracy and completeness of the information furnished by the Contractor and shall not be deemed to represent that the Architect has made a detailed examination, audit or arithmetic verification of the documentation submitted in accordance with Section 5.2.4 or other supporting data; that the Architect has made exhaustive or continuous on-site inspections; or that the Architect has made examinations to ascertain how or for what purposes the Contractor has used amounts previously paid on account of the Contract. Such examinations, audits and verifications, if required by the Owner, will be performed by the Owner's auditors acting in the sole interest of the Owner (American Institute of Architects, AIA Document A195-2008 §5.2.9).

This section creates a power without giving its user a responsibility. Certainly it cannot be a good idea for the Owner to rely on a suggestion from an Architect who holds no accountability. One would certainly hold an Architect accountable for a building collapsing if it was designed incorrectly. An Architect's design suggestions are no different from any other suggestion they make in the professional setting. If this is true, then Architects need to be held accountable for

verifying their objection to a application for payment. In section § 5.3.2 of AIA Document A195-2008 it goes on to further state that, “ the Architect is not responsible for verifying the accuracy of the Contractor’s final accounting” (American Institute of Architects, AIA Document A195-2008 §5.3.2). One must be accountable for their actions and Architects are no exception. If an Architect does not want the level of liability that normally accompanied an action then their decisions for objecting to a contracts’ application for payment should be taken with a grain of salt. Furthermore, it is unhealthy for such an imbalance of power to exist within a collaborative environment, like IPD. A project’s success may be limited if a collaborative performance is expected from an imbalanced team. Such a work environment would definitely place unnecessary strains on the parties relationship.

One of the most surprising facts about A195-2008 is that the definition of IPD is not within this exact document. Rather, one would have to act on the incorporation by reference and search the AIA document A295-2008 for this definition. From a legal standpoint the incorporation by reference is more than substantial for accommodating this definition. However, from the standpoint of a Contractor, considering this delivery methods relatively new nature, the IPD definition would fall under a unique category for a project. With that being said, the IPD’s definition should really be located within AIA Document A195-2008 because asides for the title of the agreement IPD is mentioned nowhere within the first pages of the document. Normally with other traditional delivery methods this type of incorporation is acceptable. However, as we have seen, such methods do not transfer over to IPD contracts. Looking to AIA Document A295-2008, one can find the definition of IPD located within section §1.3.13. According to this agreement IPD is:

A project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to reduce waste and optimize efficiency through all phases of design, fabrication and construction (American Institute of Architects, AIA Document A295-2008 §1.3.13).

This is a complex definition and needs to be understood by all before a project delivered with IPD can reach it's full potential. Looking at the first line of this definition, the word "integrates" stands out. Normally this is a word that would mean to bring together or combine. However, in this sense it is also used to describe how these pieces are combined. Integrate also means to bring into equal participation. Here, integrate describes how the words that follow it (people, systems, business structures and practices) are combined into the process. In the second line of the definition "collaboratively harnesses" catches the eye. Collaboration means to work together to produce something. Therefore, the talents and insights of the team are used to reduce waste throughout the project entirety. Furthermore, some of these terms could be misconstrued to intend something other than their implied meaning. Either way, it seems the definition could be improved to increase it's level of comprehension. With that being the case, IPD's definition may be what is limiting the delivery method's potential.

Indemnifications are often assumed to be the same and are therefore unimportant to consider. However, this ideology could not be further from the truth. The truth is indemnifications are serious business and Contractor should be very hesitant when reviewing their terms. According to Nolo's Plain-English Law Dictionary, indemnify means to guarantee against a loss or damage that another might suffer (Hill, Nolo's Plain-English Law Dictionary).

One will typically see indemnify incorporated into contracts through the phrase “shall indemnify and hold harmless.” In this context the phrase is intended to mean that one party will indemnify, or take responsibility for an action, and hold harmless, or not blame, another party. AIA

Document A295-2008 § 9.18 is the section of this document with discusses it’s indemnification provisions. Section § 9.18.1 of this document states that:

To the fullest extent permitted by law the Contractor shall indemnify and hold harmless the Owner, Architect, Architect’s consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorney’s fees, arising out of or resulting from performance of the work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (American Institute of Architects, AIA Document A295-2008 §9.18.1).

A paragraph such as this can seem overwhelming for someone who is unfamiliar with this type of contract language. In fact, this could be the reason why contracting parties tend to skim over an the indemnification provision. The classic indemnification provision phrase “shall indemnify and hold harmless” is seen at the beginning of this section. It holds that the Contractor shall take responsibility for all claims, damages, losses and expenses that arise out of the performance of

work. This means that the Owner will hold the Contractor responsible for any claims, damages, losses and expenses that occur during the project. Usually such issues are brought forth in a lawsuit by a third party. Third parties are anyone who is not one of the main parties of an agreement. Subcontractors, inspectors and civilians are primarily the third parties the indemnification provision handles. Additionally, there is an even more troubling term to the indemnification provision, one that could potentially force a Contractor into bankruptcy. Section § 9.18.2 of AIA Document A295-2008 states that, “the indemnification obligation shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor”(American Institute of Architects, AIA Document A295-2008 §9.18.2). This mean there is no limit on the amount a party can recover from damages. To protect the Contractor, there should be a limit to this financial indemnification. Such a limit could be incorporated into the current language by adding the phrase to the *extent of \$___(insert amount here)___* to the current provision. As a result, section §9.18.1 would then read ...Contractor shall indemnify *to the extent of \$5,000,000.00* and hold harmless the Owner... if this phrase were to be included. However, it does not seem fair to simply blame the Contractor for everything. What about situations where damages were caused by a negligent action of the Owner or Architect? Perhaps even more confusing, what if the damage was the result of negligent actions by all three of these parties? If a protected party’s negligence results in claims, damages, losses or expenses, the indemnity and hold harmless provision will usually be void (Alberstone, Indemnity and Hold Harmless Contract Provisions). The *Marquette Law Review* at Marquette University published an informative article discussing the rulings of indemnification when both parties are at fault. In cases where both parties are liable for the resulting damages, the courts will generally not hold a

Contractor to their indemnification requirement (Collins, Indemnification Contracts: Some Suggested Problems and Possible Solutions). Neither of these rules are written in stone, but it is well established that indemnifications are generally unenforceable in some states (Post, Model Contract for Integrated Project Delivery Is on Hot Seat). Even with these positive steps, it does not change the fact that our legal system is currently divided over the legality of indemnifications. This split decision is actually a positive for the construction industry. The way the industry uses the indemnification provision is not so different from what is considered an abuse of power. The positives of this provision is the idea of protecting the Owner. Its downfall is that it does so at the expense of the Contractor. Thus the second downfall in the case of the Contractor is a further step away from an equally shared risk environment. This looming risk would also have a tendency to cause a decline in the collaborative atmosphere.

It is common knowledge that construction work is a dangerous occupation. Safety plans are wonderful ideas, but the simple truth is that accidents are going to occur regardless of such efforts. If such an occurrence does happen within a project, the Contractor will be financially responsible for any damages an individual brings forward. The project environment is a breeding ground for these type of situations and accidents can be expected. When they do, the provisions increase the probability that a project delivered with IPD will fail. Collaboration cannot occur within an environment that uses the current indemnification provision. The current indemnification provisions as they stand in A295-2008 place an unreasonable amount of project liability on the Contractor. Under said provisions, the Contractor will be held liable regardless of who is at fault. This is not the model IPD intended to establish for it's delivery method. The

totality of these ideas not only suggest that indemnifications are a problem for IPD, they point out that indemnifications are in fact restricting the delivery method's level of success.

In general, AIA Document A195-2008 and A295-2008, do not seem to fit the performance model that IPD strives to establish. Within these documents there are countless references to traditional delivery method techniques. These non-collaborative techniques do not work well for a project delivered with IPD. The IPD definition states that contracting parties must collaboratively harness their talents and insights if the delivery method is going to work. The industry's longing to have an Architect as the Owner's consultant is something that could ruin the dynamics of any collaborative effort. Instead the Owner should hire a representative third party who could monitor the project progress and protect the Owner's interest. If such is not the case and the Architect is the consulting authority of the Owner, then it places the Architect in a position of power above the other contracting parties. With this power, many professionals are concerned by the indemnification provision of AIA Document A295-2008. Architects have the power to hold the Contractor responsible for all claims, damages, losses and expenses is unethical. If such provisions are to be used, they must be altered to limit the monetary value a Contractor's indemnity can provide. If limits are not incorporated into this provision it will destroy the Contractor's financial security and hinder the collaborative project atmosphere. The circumstances in both of these examples do not bring the contractual parties into equal participation and as a result limits the process of collaboratively harnessing their resources. If these resources are limited or restricted in some way, it will limit the success a project delivered with IPD can achieve.

AIA Document C191-2009

The American Institute of Architect's website describe the specific purpose of AIA Document C191–2009 as the standard form multi-party agreement through which the Owner, Architect, Contractor, and any other key participants execute a single agreement for the design, construction and commissioning of a project that uses Integrated Project Delivery. This agreement is goal oriented and is very different from the AIA Document A195-2008. The American Institute of Architect's website further state that, "AIA Document C191-2009 provides the framework for a collaborative environment in which the parties operate in furtherance of cost and performance goals that the parties jointly establish" (The American Institute of Architects, Contract Documents: Integrated Project Delivery IPD Family). This structure utilizes a dual management approach that consists of the Project Executive Team and the Project Management Team . The *Project Executive Team* is made up of one representative from each of the contracting parties. This team provides conflict resolution actions to settle disputes that may arise on a project. The *Project Management Team* conducts the primary management activities of the project. Like the Executive Team, the Project Management Team is also made up of one representative from each of the contracting parties. The goal-oriented compensation model of AIA Document C191-2009 provides incentives for parties to collaborate successfully throughout duration of the project. It is important to note that this document is accompanied by eleven exhibit documents. The following are the exhibit documents that are associated within AIA Document C191-2009:

- ❖ AIA Document C191-2009 Exhibit A: General Conditions of the Multi-Party Agreement for Integrated Project Delivery

- ❖ AIA Document C191-2009 Exhibit B: Legal Description of Project
- ❖ AIA Document C191-2009 Exhibit C: Owner's Criteria
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit AA: Target Cost Breakdown
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit BB: Project Definition
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit CC: Project Goals
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit DD: Integrated Scope of Service
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit EE: Project Schedule
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit FF: Digital Data Protocol
- ❖ AIA Document C191-2009 Exhibit D: Target Criteria Amendment, Exhibit GG: Building Information Modeling Protocol

Each of the listed exhibits serve a specific purpose to the AIA C191-2009 agreement. Moreover, the purpose of these documents is further elaborated upon within AIA Document C191-2009 Exhibit A: General Conditions of the Multi-Party Agreement for Integrated Project Delivery.

Before getting into these exhibits, it is important to note how the AIA Document C191-2009 is different from the AIA Document A195-2008. The former is truly a collaborative

effort. Its very existence hinges on the collaborative effort of the participants. The latter is more of an individualized process with periodic collaboration throughout the project's delivery. However, this does not mean that AIA Document C191-2009 is the perfect embodiment of a project delivered with IPD.

The fundamental principle which makes AIA Document C191-2009 an excellent depiction of IPD is the same that is preventing it from achieving its potential. What makes this document and the documents associated with it ideal for a project delivered with IPD is the unique use of contract language. This "GO Team! Go!" language is one of the topics of close scrutiny for most IPD critics. Originally IPD agreements were designed using traditional delivery contract language. These "happy terms," or "fluff language," was then added by contract drafters to make previous documents IPD appropriate (Hilger, *The Legal Worries Raised by IPD*). In AIA Document C191-2009, there are several examples of this fluff language, or happy terms. One such example is located in AIA Document C191-2009 §3.1.1. This section states, "Each party shall collaborate with the other Parties and key project participants toward the successful accomplishment of the project" (American Institute of Architects, AIA Document C191-2009 §3.1.1). Another example of fluff language can be found within Article 1 of AIA Document C191-2009. The first few words for describing IPD, "The parties intend that the project shall" is just fluff that adds nothing to the definition (American Institute of Architects, AIA Document C191-2009 §1.1.1). In an article from *ENR magazine*, Michael De Chiara, who is the co-founder of lawyer Zetlin & De Chiara, claims that, "Such words are not only useless but naive and illusory" (Post, *Integrated-Project-Delivery Boosters Ignore Many Flashing Red Lights*). These words should not be included in IPD agreements like AIA Document C191-2009. Fluff

language makes legal review of any document very difficult for the legal system. The reason the legal system has more difficulty interpreting a contract with fluff language is because the court must consider a contract in its entirety. The prior knowledge that some of this agreement's terms hold no value does not exempt the court from considering these terms in their review.

Contracting methods are well established and maintain a relative level of certainty within their terms. However, there is a new level of uncertainty in these time honored documents resulting from the incorporation of fluff language into its terminology. Stephen Hilger, Construction Attorney at the law firm Hilger Hammond, said it best in his article "The Legal Worries Raised by IPD" by claiming, "Fluff language is therefore a legitimate concern." Mr. Hilger goes on to further state that fluff language will create ambiguities within an IPD contract (Hilger, The Legal Worries Raised by IPD). If such ambiguities do exist within the contract, then this could result in matter have open-ended interpretations. AIA C191-2009 makes clear use of a collaborative effort and as a result suggests that such issues may not seem valuable. However, ambiguities within mundane tasks can lead to careless mistakes which as a result produce more waste and reduce project efficiency. Waste reduction to improve efficiency is the meaning of IPD. If this is jeopardized though ambiguous contract terminology, then the success of IPD projects will be limited. Parties of these agreements should really begin taking the fluff language more seriously as it can lead to project waste.

In comparison to document AIA Document A195-2008, AIA Document C191-2009 is far superior. A lot of the concerns professionals had with AIA Document A195-2008 were addressed and in AIA Document C191-2009. However, one considerable problem was left unattended. The definition of IPD is the still same cookie cutter version that was listed in AIA Document

A295-2008. Similar to AIA A195-2008, the IPD definitions are located within the document's general conditions. This is a document that is normally associated with AIA Document C191-2009 and is included within its terms by enlisting its content in the form of an exhibit. AIA Document C191-2009 Exhibit A is the general conditions of the multi-party agreement for integrated project delivery. The previous issue concerning the definition of IPD was that it should be altered to increase its comprehensibility. The definition is located within AIA Document C191-2009 Exhibit A §A.1.1.16. Once again the definition state:

A project delivery approach that integrates people, systems, business structures and practices into a process that collaboratively harnesses the talents and insights of all participants to reduce waste and optimize efficiency through all phases of design, fabrication and construction (American Institute of Architects, AIA Document C191-2009 Exhibit A §A.1.1.16)

What is even more disappointing is that AIA Document C191-2009 seems to define IPD in its general provisions located under Article 1. Unlike, AIA Document A195-2008 which makes no attempt to mention the delivery method, AIA Document C191-2009 makes an attempt at defining how IPD will relate to the specific project. Article 1 of AIA Document C191-2009 states:

The parties intend that the project shall be delivered in a collaborative environment and shall endeavor to align individual interests with those of the project. The parties agree to contribute their knowledge, skill and services during all phases of the Project and to bring to bear their expertise for the benefit of the project (American Institute of Architects, AIA Document C191-2009 §1.1.1).

Such a definition would allow for a much better understanding of how IPD will play out on a project. The only portion of this definition that should be excluded is the first few words saying, "The parties intend that the project shall." As previously stated this is another example of fluff language. Although, this is a step in the right direction, it still does not erase the fact that it was not within the designated definition area. The continued use of the old definition will only add to the confusion of IPD. If this is not altered in some way to increase the understanding of IPD's definition, it will continue to limit the delivery method's success.

Collaboration is the key to IPD and is essentially the most important aspect of the delivery method. If IPD did not incorporate the idea of collaboratively delivering a project, the delivery method itself would cease to exist. In fact collaboration is what makes IPD such a great delivery method for the industry. However, there is one concept that has yet to be touched. This concept is heavily rooted within the AIA Document C191-2009 agreement and as a result will almost certainly limit the success of any project delivered with IPD. The topic referred to is known as "shared risk and shared reward", or "*shared risk shared reward.*" Shared risk shared reward is one of the largest concerns surrounding IPD. The effects of collaboration within IPD were essentially what created the shared risk shared reward problem. For a project delivered with IPD, collaboration is used to improve a project efficiency and as a result reduce the amount of waste. Most project delivery contracts include provisions that warrant rewards for efficient project performance. In other words, a reward will be given for any practice that saves the project money. However, for projects delivered with IPD, there is a catch to this reward. Since IPD is a collaborative effort, all incentives, bonuses and reward must be shared between the parties of the agreement. This is the shared reward aspect of the shared risk shared reward

phrase. Shared reward is a brilliant business strategy for project Owners. However, the same enthusiasm cannot be shared by the remaining parties of the agreement. With traditional delivery methods, an Owner paid incentives to parties that earned them. Under IPD, Owners no longer have to pay rewards separately to each individual party. Now, an Owner sets aside one reward fund, usually for the amount which had previously been issued to a single party. That amount is then divided up for the contract parties to share. The collaborative environment of IPD is what makes this practice possible. IPD permits Owners to now pay a fraction of the reward they once paid under traditional delivery methods and distribute it evenly between the parties of the agreement. Before collaboration was introduced, project professionals were receiving the full amount of an incentive reward if they were the party responsible for earning it. Now that reward is shared among the contract parties, even if the other parties contributed nothing to the project savings. With less incentive, industry professionals will be less likely to come forward with project improvement ideas. If they do, there would surely be resentment when less worthy parties receive the same incentive while contributing less. With IPD, individualized reward based performance is no longer the case and Owners are now able to pay a fraction of the amount paid under traditional delivery methods.

Shared reward's partner in crime is the concept of shared risk. Unlike shared reward, shared risk resulted from the industry's obsession with continually reducing project waste. Methods for reducing project waste were pushed to the extreme when IPD was first gaining popularity. The parties of IPD agreements were constantly looking for new ways shave project costs. This obsession reached a breaking point when the concept of shared risk was put into place. The industry determined that eliminating lawsuits was a great way to reduce waste on a

project. This gave birth to the concept of shared risk. The rationale behind this concept was that lawsuits waste project resources without adding anything in return. Considering this fact, it may seem like a good idea to get rid of lawsuits on a project. However, nothing could be further from the truth. The strategy for ridding itself of project lawsuits is something many professionals regret to this day. The name of this strategy implies shared risk. The concept of shared risk however means that contract parties waive their legal right to bring suit against each other. Elaborating on this concept, shared risk can also be interpreted as meaning that all parties are responsible for each others actions. Shared risk eliminates individual liability within a project. However, the industry did not understand the consequence of this action when creating this strategy. It is true, lawsuits provide nothing to benefit the project as a whole, however this does not mean they should be disregarded as useless. Lawsuits and liability, both of which the industry did away with through shared risk, are essential for the protection of a party's legal rights. Shared risk essentially does away with these rights by eliminating lawsuits. These rights are not intended to add anything to the projects value, but rather are present to protect a parties interest. Clearly legal security is not considered an asset for delivering a project. Many times this shared risk policy is not applied evenly to the other contract parties. Shared risk requires the contract parties to waive their rights to claims, but most of the exceptions to this provision are for rights belonging to the Owner.

When both shared risk and shared reward concepts were combined, it created a paradox. The shared risk provision makes it so that parties liable for each others actions. This tends to promote a more efficient level of collaboration. An elevated level of collaboration will permit a project to operate at maximum efficiency. In addition, the contract, parties must share all rewards

that are incurred. In traditional agreements when rewards were earned, one hundred percent of the reward value would be retained by the deserving party. Now, when a reward is received under IPD, it is unusually only for one third of reward's original value and that is the best case scenario. The simple truth of the matter is that a party would have to earn numerous awards to achieve the value of a single reward that is not shared. What is even more troubling is that projects delivered with IPD use shared risk. As previously mentioned, IPD projects will generally operate at maximum efficiency. If they are already operating at maximum efficiency, this leaves little room for additional waste reduction and as a result little chance for a contract part to earn additional rewards. The paradox here is that both are mutually harmful to the other but are inseparable none the less.

With in AIA Document C191-2009 the shared risk shared reward theme is very obvious. Article 8 is the area of the AIA Document C191-2009 agreement which discusses the document's policy on risk sharing. Moving up the document to section §1.1.2 of AIA Document C191-2009 it states that, "the parties shall share in any savings realized in accordance with the terms of this agreement" (American Institute of Architects, AIA Document C191-2009 §1.1.2). Therefore, it is quite clear that shared risk shared reward exists in this document. Since this is the case, it will indefinitely limit the success a project delivered with IPD can achieve.

Shared risk is generally accompanied by a dispute resolution committee, as is shared reward. The dispute resolution committee is designated authority to handle all project issues internally. This is made possible because all the contract parties waiver their rights to raise claim against each other. Section § 2.3.1 of AIA Document C191-2009 discussed issue resolution. This section states that :

The parties shall develop protocols by which project issues shall be raised and reviewed by the Project Management Team and Project Executive Team. Such protocols shall include, but not be limited to, any notice requirements for raising matters to be addressed, required supporting documentation, and time frames within which team members must render a decision. The parties shall endeavor to resolve all project issues through direct discussions at meetings of the Project Management Team. Issues not resolved by the Project Management Team may be submitted by any Party's Project Management Team representative to the Project Executive Team (American Institute of Architects, AIA Document C191-2009 §2.3.1).

All disputes that are not resolved in this manner will be issued to the dispute resolution committee described within Article 9 of AIA Document C191-2009. The important thing to note here is that all of these process are done in-house within the project. This is primarily the result of the shared risk provision in Article 8 of AIA Document C191-2009. This provision holds that all parties must waiver their rights. For many professionals this dispute resolution committee presents a problem for projects delivered with IPD. The idea of an in-house committee passing judgment is unsettling. Furthermore, if these contract parties are also bothered by the on-site legal system the project has established they may be reluctant to report an issue altogether. If issues and problems are not addresses immediately within the collaborative environment IPD established, it can severely affect a project's level of success. Moreover, if issues are not reported, the project success will certainly diminish.

The underlining issues that are affecting AIA Document C191-2009 are completely for the issues that were seen within AIA Document A195-2008. The main reason AIA Document C191-2009 restricts the success of a project delivered with IPD is for the opposite reason listed for AIA Document A195-2008. The former is far to extreme while the latter clings to the past. Nevertheless, the primary concerns revolving around AIA Document C191-2009 are the forced resolutions of the dispute committee and the troubling aspect of shared risk shared reward. Shared risk shared reward will limit a project's success, that is a known fact. This is because less profit results in fewer shared rewards. These shared rewards are further hindered by efficiency levels of IPD's collaborative atmosphere. Paradoxically, these efficiency levels are maintained through the work relationships that shared risk established. The shared risk shared reward concept is a never ending circle that will always result in some form of loss. If a contract utilizes this agreement, its efforts to increase efficiency will only decrease its success. Additionally, if contract parties have an issue with project problems, they may be reluctant to report it due to the decision resolution committee. The concept of an in-house courtroom is something that will only divide a collaborative movement. This is not to say that it does not serve a purpose. It merely means that a dispute resolution committee cause more harm than it does good. Based on these two significant issues of AIA Document C191-2009, it would be safe to assume that a project's success would be limited if not significantly jeopardized.

If the entire spectrum of IPD could be described one single document, it would have AIA Document A195-2008 at one end and AIA Document C191-2009 at the other. The AIA Document A195-2008 side of the spectrum is too reliant upon the previous contracting methods that were previously used for traditional delivery methods. However, on the other end of the IPD

spectrum is AIA Document C191-2009, which is too intense a version to be the perfect embodiment of IPD. The perfect and ideal IPD contract would land somewhere in the middle. Such a document would maintain a few traditional aspects from the past while not fully relying on them. It would break away from traditional norms and create its own identity that promotes collaboration without hindering reward. It would come together to create an equal working relationship between all contract parties, including the Owner. IPD is a wonderful delivery method that has the potential to successfully deliver any project. All it would take is one well revised contract.

Conclusion

This thesis sets out to answer two questions: First, is the IPD method the problem? Many believe that the delivery method is to blame for IPD failures. However, this is an inadequate answer to the question. To better explain, consider the following analogy. If you fail a test while in school, would you blame the institution for failing you or yourself for not studying hard enough. Most would answer the latter when presented with this question. This situation is no different from producing an unsuccessful project. However, in this situation professionals are choosing the former when asked why they failed. Clearly, these people are not looking into the underlying issue that is surrounding this problem. The delivery method in itself does not cause the project to fail. However, the delivery method's contract is a prime suspect for limiting a project success. This idea is especially suspicious when considering the fact that IPD projects vary in terms of their success. The main ingredient that changes with each IPD project is the contract. Therefore this strongly suggests that IPD contracts are causing the delivery method's problems.

Following this analysis, my research began looking into articles and statements from industry professionals to determine if contracts were the cause of IPD problem. At this point a strong correlation was noticed between failed IPD projects and poor contract language. It was here that it became clear, IPD contracts were the delivery methods problem the entire time. Furthermore, this proved that contracts were limiting the success of projects delivered with IPD

Finally, this study set out to answer the question of which contract provisions specifically were limiting the success of IPD. The answer was found in two of IPD's most popular contracts, AIA Document A195-2008 and AIA Document C191-2009. In these contracts, several areas of

concern were identified that would limit the success of a project delivered with IPD. Contract language, fluff language, indemnification, shared risk shared reward, and dispute resolution committees were the most prominent areas that were problematic for IPD projects.

Based on the totality of this research, it is my opinion that IPD contracts are the primary cause of IPD related problem. Additionally, these contracts limit the success of projects delivered with IPD. There must be a revitalization of these contracts before IPD can move forward as a valuable delivery method. IPD was first introduced as the solution to the industry's problems. With additional effort, IPD can be that solution.

Works Cited

- Alberstone, Dale. "Indemnity and Hold Harmless Contract Provision." *Apartment Owners Association*. 6 June 07. Web. 10 Apr. 2012.
- American Institute of Architects. AIA Document A195-2008. 2008. Contract stencil. Washington DC.
- American Institute of Architects. AIA Document A295-2008. 2008. Contract stencil. Washington DC.
- American Institute of Architects. AIA Document C191-2009. 2009. Contract stencil. Washington DC.
- American Institute of Architects. AIA Document C191-2009 Exhibit A. 2009. Contract stencil. Washington DC.
- American Institute of Architects California Council. *Integrated Project Delivery: A Guide*. Sacramento: McGraw Hill Construction, 2007. PDF.
- The American Institute of Architects. "Contract Documents: Integrated Project Delivery (IPD) Family." *The American Institute of Architects*. 2012. Web. 17 Apr. 2012.
- Bishop, Ken. "Is Integrated Project Delivery A Revolution or Gimmick? - ENR | McGraw-Hill Construction." *ENR: Engineering News Record*. McGraw-Hill Construction, 1 Oct. 2008. Web. 14 Apr. 2012.
- Collins, John R., and Denis Dugan. "Indemnification Contracts: Some Suggested Problems and Possible Solutions." Rpt. in *Marquette Law Review*. Vol. 50. Milwaukee: Marquette University, 1966. 77-87. Web.

Dirik, Joe. "Integrated Project Delivery, Part Two: Legal Issues." *McGraw Hill Construction*.

ENR Texas & Louisiana, Mar. 2009. Web. 14 Apr. 2012.

Dirik, Joseph P. "Integrated Project Delivery: A Look at the Future?" *McGraw Hill Construction*.

ENR Texas & Louisiana, Nov. 2008. Web. 14 Apr. 2012.

Fisk, Carson. "Implied Obligations in Construction Contracts." *McGraw-Hill Construction*. ENR

Texas & Louisiana, Nov. 2008. Web. 14 Apr. 2012.

Hilger, Stephen A. "The Legal Worries Raised by IPD." *The Legal Worries Raised By Ipd*.

McGraw-Hill Construction, 1 Sept. 10. Web. 11 Apr. 2012.

Hill, Gerald N., and Kathleen Hill. *Nolo's Plain-English Law Dictionary*. Berkeley, CA: Nolo,

2009. Print.

Inglesby, Tom. "Keeping an "I" on Project Delivery." *Constructech Magazine*. Specialty

Publishing Co., May 2011. Web. 13 Apr. 2012.

"Integrated Project Delivery." *Constructech Magazine*. Ed. Peggy Smedley. Specialty Publishing

Co., 2009. Web. 13 Apr. 2012.

"A New Method for Project Delivery." *Constructech Magazine*. Ed. Peggy Smedley. Specialty

Publishing Co., 8 Feb. 2011. Web. 13 Apr. 2012.

Post, Nadine M. "An Unprecedented 11 Partners Propel Integrated Project Delivery at Sutter's

New California Hospital." *ENR: Engineering News Record*. McGraw-Hill Construction,

14 Sept. 2011. Web. 11 Apr. 2012.

Post, Nadine M. "Integrated-Project-Delivery Boosters Ignore Many Flashing Red Lights." *ENR:*

Engineering News Record. McGraw-Hill Construction, 5 May 2010. Web. 11 Apr. 2012.

Post, Nadine M. "Model Contract for Integrated Project Delivery Is on Hot Seat." *ENR*:

Engineering News Record. McGraw-Hill Construction, 6 May 2009. Web. 11 Apr. 2012.

"The True IPD." *Constructech Magazine*. Ed. Peggy Smedley. Specialty Publishing Co., Feb.

2011. Web. 13 Apr. 2012.

"What It Means to IPD." *Constructech Magazine*. Ed. Peggy Smedley. Specialty Publishing Co.,

23 Aug. 2011. Web. 13 Apr. 2012.

Winstanley, Tim. "Integrated Project Delivery Methodology." *ArchDaily*. Plataforma Networks

Broadcasting Architecture Worldwide, 2 Aug. 2011. Web. 14 Apr. 2012.