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Megaproject Risks and Contractual Mitigation Strategies

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Paper Title: Megaproject Risks and Contractual Mitigation Strategies

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Session Title: Managing the Unique Risks of the Megaproject

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MEGAPROJECT RISKS AND CONTRACTUAL MITIGATION STRATEGIES

In the mid-20th century infrastructure boom a construction project could be considered a "major" project if it was over $100 million and had a duration of three or more years. Back then such projects were out of the ordinary and would have significant local, state and regional impacts for years.[1] Today, a megaproject is generally defined as a long-term project of over $1 billion,[2] and megaprojects of tens of billions of dollars are becoming more commonplace and frequent.[3]

Megaprojects include refineries, datacenters, skyscrapers, airports, arenas, medical centers, airports, and energy, rail and roadway projects. Some are public works or at least partially publicly funded, but many are private. Even in recent years, megaprojects have skyrocketed. Megaprojects were only 3% of total construction projects that broke ground in 2013, but that figure grew to 33% by 2018. Researchers have estimated that the total cost for megaprojects in the U.S. for construction put in place will increase from $50 billion in 2019 to $350 billion by 2029. The chances of being a part of a megaproject are no longer remote. The rise of megaprojects means that more owners, contractors, designers, subcontractors and suppliers are needed to plan, design, and build them.

Megaprojects present outsized challenges for the management of the exceptional risks that come with larger, longer-term construction projects. Risks inherent in any construction project are magnified and gain complexity on significant construction works involving multiple stakeholders, massive financial investment, several levels of trade partners, and extended project duration. When coupled with the industry's shift away from traditional design-bid-build project delivery to models creating new risks - design-build, DBF, DBFOM, EPC, and P3 - contractors, insurers, and sureties face new and high stakes on megaprojects.

Megaprojects are extremely risky financial endeavors for all project

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[1] When the Hoover Dam was completed in 1936 it was the world's largest hydroelectric power-producing facility and largest concrete structure, took six years to build and cost $49 million. Even with adjustment to today's dollars it would barely meet the threshold for a megaproject today.

[2] *See* Ohio Rev. Code Ann. §122.17(11) (defining "megaproject" for purposes of Ohio tax incentives, as including, but not limited to, a project where a megaproject operator makes at least one billion dollars in fixed-asset investments in the project); *but see* Missouri Rev. Statute §135.950(15) (defining "megaproject" for purposes of enterprise zone tax incentives as any manufacturing or assembling facility, with new capital investment projected to exceed $300 million over a period of eight years); FHWA Major Project Fact Sheet (defining "Major" projects as those in excess of $500 million that are funded in part by federal funds). Prior to August 2005, FHWA designated projects over $1 billion in construction costs were designated as "Mega Projects." The monetary threshold has since been lowered to an estimated total cost of $500 million or more, *see* Pub. L. 109–59, and the term "Mega Project" has been replaced with "Major Project."

[3] *But see* U.S. Dept. of Labor, Office of Federal Contract Compliance Programs, Mega Construction Project Program Factsheet (defining mega construction projects as those in excess of $35 million and lasting for more than a year, imposing additional compliance requirements for labor and subcontracting).

participants. Almost all megaprojects have significant, eye-popping cost increases: cost overruns of up to 50 percent are "common," and over 50 percent are "not uncommon."[4] In the United States, noteworthy megaprojects like Denver International Airport and Boston's Big Dig endured cost overruns of over 200 percent, while internationally some megaprojects overrun over 1000 percent.[5] Time is also money, and years of delays in planning, implementing and building megaprojects are unfortunately routine and to be expected.[6]

Megaprojects can lead to "mega-problems" where ordinary project risks are magnified and enhanced, requiring project participants to be even more vigilant of project risk. These efforts at risk avoidance must commence in the pursuit and bidding phase, continue through buyout and project commencement, and extend the entirety of project performance, close out and subsequent warranty or O&M phases. The success of a large, complex project is "improbable" and "two out of three large complex projects fail."[7]

Due to size, megaprojects not only present heightened stakes for contractors, insurers, and sureties, they also require fresh consideration of insurance and suretyship strategies and other risks including contract terms, joint venture relationships, subcontractors, project delivery and design consultants. This paper provides an overview of some of the risks encountered on megaprojects, the role of insurance, bonds and other security, and strategies for managing risk at the planning stages and throughout the project lifecycle. Strategies to consider in planning for, mitigating, and avoiding risk are presented through discussion of the following selected issues on megaprojects:

1. Changes in Work and the Duty to Proceed
2. Cash Flow and Owner's Financial Arrangements
3. Subcontractor Vetting and Contract Terms
4. Joint Ventures: Typical Structures and Risks
5. Parent Company Guarantees and Associated Risks
6. Dispute Resolution Considerations
7. Shifting Risk Through Insurance
8. Protecting Against Default through Bonds

[4] *See* Bent Flyvbjerg, The Iron Law of Megaprojects, August 5, 2021, Towards Data Science.
[5] *Id.*
[6] *See e.g.* Tim Harford, Megaprojects often end up late and hideously over budget. Why?, Financial Times, September 2, 2022; Nicklas Garemo, Stefan Matzinger, and Robert Palter, Megaprojects: The good, the bad, and the better, Infrastructure, July 1, 2015, McKinsey & Company, available at https://www.mckinsey.com/business-functions/operations/our-insights/megaprojects-the-good-the-bad-and-the-better, last accessed November 26, 2024.
[7] Bob Prieto, Changing Risk Manager's Perceptions, July 20, 2021, available at www.linkedin.com/pulse/changing-risk-managers-perceptions-bob-prieto/ last accessed November 26, 2024.

1. Changes in Work and the Duty to Proceed

Changes are inevitable on any construction project. Projects are rarely built exactly as planned, designed or contemplated. Standard construction contract forms recognize and acknowledge the inevitability of changes in the general conditions. *See, e.g.,* ConsensusDocs 200, Art. 8; AIA A201 2017 (General Conditions), Art. 7. There are multiple circumstances that can generate the need for modifications to the original terms of the contract, including directed changes, differing site conditions, errors in design, contradictory specifications, force majeure, extreme weather, shortages of labor or materials, and multiple other instances and variables. While contractors must always be mindful of change provision requirements for notice and presentation of claims, on megaprojects there is an equally important risk to consider – the duty to proceed.

Contractors, subcontractors, owners, and sureties are generally familiar with the duty to proceed—the duty of a contractor or subcontractor to continue performing work during the pendency of disputes over work and/or claims. The duty is entrenched in standard industry contracts and established in law. *See, e.g.*, ConsensusDocs 200-3 (Standard Agreement and General Conditions Between Owner and Constructor—Lump Sum) (requiring contractor to "continue the Work and maintain the Schedule of work during any dispute"); AIA A-201-2017 (General Conditions) (requiring contractor to "proceed diligently with performance of the Contract"); FAR 52-233-1 (requiring contractor to "proceed diligently with performance of the contract, pending final resolution" of a claim). There are very few common contractual exceptions to this duty to proceed, which are generally limited to an owner's failure to make payment on undisputed amounts, a formal suspension or stop work order, or safety emergencies.

The duty to proceed clause is intended to ensure that the project does not come to a standstill while the parties are attempting to resolve their differences over directed changes, changed conditions, or other circumstances that give rise to a claim for additional compensation and time. Yet the practical effect of a duty to proceed is that a contractor or subcontractor may carry the costs of disputed extra work and changes throughout the project's duration. If the dispute proceeds to litigation or arbitration, contractors and subcontractors may not realize any recovery until years after project completion. For a small contract where the disputed amount is minimal, the duty to proceed may not impose a significant financial burden. But on a megaproject, where the amount in dispute could be hundreds of millions of dollars, the duty to proceed could present an existential threat to the contractor and its subcontractors.

The duty to proceed poses the same risks on large and megaprojects as it does on any other construction project, but the magnitude and consequences of those risks on megaprojects are much greater. In many instances, contractors experience "bet-the-company" stakes if they end up having to shoulder financial

responsibility for millions, or hundreds of millions, of dollars in disputed changes and extra work during project performance all the way through project completion. The risk of "bet-the-company" stakes is obvious for the contractor, but sureties should also be concerned about this increased risk posed by the duty to proceed on large projects.

Disputed changed and/or extra work in the magnitude of hundreds of millions of dollars exponentially increases the risk that a contractor cannot finish the project and that its surety will be called on to complete the project. Second, if a contractor defaults, traditional means of surety protection, such as collateralization, may not be enough to cover the risk faced by sureties. For instance, in many cases, a surety or several co-sureties have guaranteed a contractor's performance not only on one, but also on several large projects. If a contractor encounters disputed changed/extra work such that a contractor default occurs on one project, it is possible, if not likely, that the contractor will default on other bonded projects as well. Similarly, if a surety or several co-sureties have guaranteed performance on more than one project and that contractor defaults on one project, a collateral call on one project could inhibit the contractor's ability to complete performance on another project.

As the risk profile associated with the duty to proceed evolves, so too must contractors and sureties attempt to mitigate this risk. Several steps can be taken by contractors and subcontractors to address the increasing risk posed by the duty to proceed. Sureties should ensure their principal contractors and subcontractors are taking these steps to decrease the chances of the surety being called upon to complete performance.

Common Sense Recommendations: Contract terms related to the duty to proceed should be negotiated and modified as necessary to account for the extreme risks borne by a contractor using standard duty to proceed language. Consideration should be given to the following contract terms:

- Sharing the Risk: Contractors should negotiate prime contracts and subcontracts that share the risk of change orders and extra work. Contract provisions should provide for: (i) payment of all undisputed amounts for change orders/extra work; (ii) owner and contractor sharing the costs of disputed change orders/extra work during project performance; and/or (iii) meaningful interest penalties for directed but unpaid change orders or extra work.
- Negotiate Fair Suspension and Stop Work Provisions: Standard construction industry contracts contain suspension and/or stop work provisions for an owner's convenience and/or for certain safety concerns. These standard provisions, however, do not typically address the risk of costs associated with disputed change orders and extra work. The parties should consider setting a threshold value of changes and/or durations of delays that would be considered outside the parties' original expectations, above which further performance would be excused, unless a contract modification were issued.

- Provide for Quick and Efficient Dispute Resolution: Instead of complicated, lengthy, and/or non-binding dispute resolution procedures, the parties should adopt dispute resolution provisions that provide quick and meaningful relief, such as: (i) dispute resolution boards (DRBs) with the ability to make binding decisions on disputes below an agreed upon threshold; and (ii) procedures that permit the parties to pursue certain relief, such as declaratory relief, while the project is ongoing and avoid provisions that push all dispute resolution until after the project completion.
- Understand Applicable Law: With the rise of mega-projects, the construction industry has increased utilization of joint venture entities to perform such projects. Many states have not kept up with this trend and have not developed law specific to joint ventures and instead treat joint ventures the same as general partnerships. State law also varies greatly regarding key substantive issues, such as requirements for and limitations on the ability to pursue claims and recover against state entities; what constitutes a differing site condition; an owner's responsibility to provide a constructable design; an owner's ability to disclaim liability for information provided to contractors; and how strictly contractual notice provisions are enforced. How these issues are addressed under applicable law can impact the risk arising from the duty to proceed.

2. Cash Flow and Owner's Financial Arrangements

An owner's lack of financial wherewithal to pay for the work in a timely fashion can bring even a small project to a standstill. On a megaproject, a missed payment or even the suggestion of an owner's financial inability to pay can mean a cessation of the work, subcontractor demobilization, removal of unpaid materials from the site, and all project participants evaluating lien rights and consulting lawyers to determine how to obtain payment. The owner's financial ability to pay is a critical component of a successful project and without it, there is often a long road ahead to obtain payment for work in place.

Standard construction contract forms generally provide a mechanism for contractors to request and obtain financial information from the owner that demonstrates the owner's financial ability to pay for the contracted work. For example, the AIA A201-2017 General Conditions require owner to furnish, at contractor's request, "reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations" prior to commencement of the work. *See* AIA A201-2017, §2.2.1. The owner's provision of this "reasonable evidence" is a precondition to contractor having any obligation to start the work. *See id.* Owner is not to "materially vary such financial arrangements" without notice to contractor, *see id.* at §2.2.3, but there is no mechanism in the standard form for the contractor to take any action following such a notice from owner.

Following commencement of the work, standard forms may further limit the contractor's ability to request such information and stop work activities. The

A201-2017 provides the following as to the contractor's ability to request owner's reasonable evidence of financial arrangements after commencement of the work, and limits the contractor's ability to act upon it:

> § 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract *only if* (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner *fails to provide such evidence*, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

AIA A201-2017, §2.2.2 (emphases added). Such provisions create ambiguities in the circumstances under which contractors may demand such information, and further ambiguities in what constitutes *sufficient* evidence of owner's financial arrangements. Clarity is needed to define contractor's rights and create an objective standard for the sufficiency of owner's proffered evidence.

It is not uncommon for megaprojects to have a single purpose entity or a subsidiary entity as "owner." The financial holdings for such entities are generally limited to the real estate comprising the project. Consideration should be given in initial contract negotiations to requesting or requiring owner to furnish parent company guarantees or other security from the outset of the project, or other assurances that the real property of the project is subject to lien or other levy.

Common Sense Recommendations: Existing standard contract provisions need to be enhanced to allow for robust evaluation of owner's financial commitments throughout the project, not just at the outset of the project as most standard contract forms suggest. Mechanisms should be developed that would give contractor the ability to stop work or postpone certain work until owner's financial commitments are fully demonstrated through lending documents, letters of credit, or other substantive evidence of the ability to meet owner's financial commitments. Such

evidence could or should include parent company guarantees of owner's obligations as appropriate. An objective standard and specific satisfactory documents and arrangement should be identified in contractual provisions to remove subjectivity about whether an owner's presented financial arrangements are sufficient. A contractor must position itself to have the ability to stop the work if owner is unable to demonstrate the financial ability to pay for work to be undertaken.

3. Subcontractor Vetting and Subcontract Terms

The importance of selecting reliable, solvent subcontractors and trade partners with the financial ability to not only complete the work but to withstand obstacles to performance exists on every project. On a megaproject, these considerations can mean life or death of the effort. Vetting of subcontractors on megaprojects and engaging in a meaningful, across the board prequalification process is critical. All significant / large dollar subcontractors and specialty or hard to replace "make or break" subcontractors should be prequalified. On megaprojects, consideration of sub-subcontractor qualification processes should be considered, especially for any sub-subcontractors with "red flag" warning signs like overextension, claims history or abnormally low pricing.

A subcontractor prequalification program should include financials (revenue/margin, audited financials, credit references and ratings) but also insurance and bonding. To complete contractor's planned insurance program for the project, the subcontractor must be able to obtain required coverage limits and terms, but also be able to shoulder any deductibles that may be a part of owner's builder's risk policy. On megaprojects these deductibles can be extreme and evaluation of the subcontractor's ability to agree to and if necessary pay for such deductibles should be part of contractor's prequalification evaluation of subcontractors. From a bonding perspective, subcontractors must have sufficient bonding capacity to furnish a payment and performance bond with agreeable terms to protect contractor from potential defaults in either performance or payment.

Evaluation of work history and contact with references should always be a part of a prequalification program, but should also include information on a subcontractor's key personnel and employees but also its owners, corporate parent and affiliates. Consideration should be given to obtaining commitments up front to parent company guarantees if the subcontractor entity is a subsidiary. Work on hand for the subcontractor, including value, location and current status remain key indicators for future success. A subcontractor's claim, lien and litigation history should be evaluated, as well as safety policies, OSHA 300 logs, and to the extent applicable, full disclosure of all certificates for all jurisdictions as to MBE/WBE/SBE status and any revocations or changes in such status.

Vetting programs should have interim requirements even after a subcontract has been awarded. Establishing timeframes for subcontractors to furnish updated financials and statements of work on hand in subcontract terms can help the contractor continue to evaluate the subcontractor's resources and stability. Subcontract terms can and should require notification from the subcontractor in the event of material changes to the subcontractor's financial situation or other contractual relationships (e.g., terminations on other projects, disqualification from bidding, or other significant events).

Once subcontractors have been selected and subcontracts are being negotiated, contractors should insist on consistency of form with its subcontracts. Pursuit and project teams have incentives to negotiate subcontract terms that may create difficulties down the road. Variance in subcontract terms across the trades can lead to confusion for the project management team and disappointment when problems arise. Additionally, the contractor should strive for all subcontractors being bound to the same set of dispute resolution processes that will allow all claims by, between, and among all subcontractors to be determined together. Consistency in the subcontract requirements to the greatest degree possible will assist project teams in managing subcontractors on megaprojects.

Subcontract terms that flow down owner requirements are of great importance but so too are subcontract terms that permit contractor the flexibility to require performance from subcontractors notwithstanding the owner-contractor terms and pendency of disputes. Contractors should include dispute review board provisions in subcontracts consistent with those established in the prime contract, and require subcontractor participation in the same for resolving any subcontractor claims and as a precondition to any further actions by subcontractor. Contractors should evaluate options for retaining the right to join subcontractors in further dispute resolution involving the owner. Contractors should also keep in mind that many subcontractor claims may involve events for which other subcontractors may be responsible, such as follow on trade damage to work in place, delay claims, and the like. All subcontracts should include terms agreeing to resolve disputes that are ultimately subcontractor v. subcontractor in one set of preliminary DRB or other ADR process and then the same final determination process if necessary. Dispute resolution processes should be binding on all project participants.

Contractors should also develop reasonable terms for subcontractor claim submission where such claims will be passed through to the owner. Sufficient time should be given to allow contractor review of subcontractor claims and evaluation of the same, while complying with owner-contractor contract terms regarding claims. Many jurisdictions allow contractors to pass through claims from its subcontractor to an owner. *See, e.g., Metric Constructors, Inc. v. Hawker Siddeley Power Engineering*, 468 S.E.2d 435 (N.C. Ct. App. 1996); *Interstate Contracting Corp. v. City of Dallas*, 135 S.W.3d 605, 617 and 620 (Tex. 2004). Pass through claims likewise allow the contractor to resolve claims as between itself and a subcontractor through a liquidating agreement. Liquidating agreements have three

basic elements: (1) imposition of liability upon a party for a third party's increased costs; (2) liquidation of the liability in the amount of the first party's recovery against the party at fault; and (3) provision for the pass-through of that recovery to the third party. *See, e.g., North More St. Devs., LLC v. Meltzer/Mandl Architects, P.C.*, 23 A.D.3d 27, 31 (N.Y. App. Div. 2005); *Bd. of Cty. Comm'rs of Frederick Cty. v. Cam Const. Co.*, 300 Md. 643, 480 A.2d 795 (1984). Those liquidation agreements allow the claim to be passed through for resolution under the contractually required process. Meanwhile, the subcontractor can continue the work without interruption. Finally, meaningful termination provisions for cause and compensation to contractors in such events must be developed and be tied to the subcontractor's bonding obligations and other financial commitments, such as parent company guarantees.

Common Sense Recommendations: Commence the vetting process early and assure that subcontractors are financially sound and can stand behind their obligations. The vetting process should continue through the project and there should be continuing obligations for the subcontractor to confirm its capabilities and financial stability throughout the course of the project. Subcontractors must be able to satisfy insurance and bonding requirements that are meaningful and will enhance and comply with contractor's insurance and bonding programs. Subcontract terms should be as consistent as possible across all trades, including, but not limited to, the dispute resolution processes. Subcontract terms must flow down from contractor's commitments to the owner, but also must take into consideration the joining of contractor-subcontractor dispute resolution processes into larger dispute review boards or other separate dispute resolution processes. Contractors should attempt to keep options open regarding the resolution of subcontractor v. subcontractor disputes and allow themselves the opportunity to enter into liquidation agreements to allow the project to proceed while the disputes proceed through the dispute resolution process.

4. Joint Ventures: Typical Structures and Risks on Megaprojects

The construction of many megaprojects is performed by construction joint ventures (CJV) where two or more members come together under a joint venture agreement and share expertise and resources. Joint venture agreements set forth the terms and conditions of the member's relationship and there are several types in common use as follows.

A. Types of Joint Venture Structures

An Integrated Joint Venture is typically a true partnership, such that the partners share profit and losses in proportion to their interest in the joint venture, which may be 50%-50% or some other division. There are generally two or more members. The parties each bring goods and services to the joint venture, they share in the bidding, buy out, execution, and close out of the project under governance and management systems that range from non-complex to multi-layered and highly

bureaucratic. Integrated Joint Ventures are optimally and typically used by parties who have strong relationships on non-linear, complex projects.

Non-Integrated Joint Ventures generally do not involve a partnership and typically there is no sharing of profit and losses. Each party performs specific scopes of work for which each party is solely responsible for the resources needed to perform. Likewise, each party will be responsible for the risks, profits, and losses for their scope. This form of joint venture welcomes contractors who self-perform work with specific skills and scopes of work. Disputes may arise while using this model if one party delays or disrupts the work of the other, or if quality issues arise with one of the parties' work. Non-Integrated Joint Ventures are optimally used when the parties do not possess much history together, and on linear projects with distinct work scopes consistent with the expertise of the respective partners.

A Combination Joint Venture is a joint venture that combines elements of integrated and non-integrated joint ventures. Each partner performs a specific scope of work and is responsible for the profit or losses associated with the scope. Additionally, the parties combine their efforts to perform other portions of the project work, causing both to share joint responsibility for the contractual responsibilities associated with that scope of work. The optimal use for the combination joint venture model includes large, complex projects with joint venture members possessing some, but not all, of the expertise required to perform the project.

Equity Joint Ventures are joint ventures involving two or more partners that create a separate corporate entity. Each partner owns a share of the equity in the joint venture, by either providing capital, labor, material, management, administration, or equipment to the venture. Items such as bonds, insurance, profits, and losses are agreed upon by the parties in the joint venture agreement. Relatedly, Contractual Joint Ventures are also formalized in an agreement. However, they generally do not involve the formation of a new and/or separate legal entity and the parties do not participate at the equity level jointly.

B. Key Risks Associated with Joint Ventures on Megaprojects

Joint Ventures are common on megaprojects due to the size of the undertaking and the need for multiple partners to furnish services, expertise, capital, and other items. The use of joint ventures generally and the specific use on megaprojects creates key specific risks associated with each partner's roles and responsibilities, the methods of overcoming crisis events, and the management of working capital needs throughout the project.

Great care must be given while defining roles and responsibilities in joint ventures relationships, particularly on megaprojects. Organizational charts, job titles, and job descriptions are a necessity on projects of all sizes but take on much more outsized roles on a megaproject. Project teams require a firm understanding

of the chain of command and the method of division of labor among the joint venture partners so decisions can be made promptly and by the appropriate entity or person. Likewise, the partners themselves benefit greatly when the governance model of the joint venture is easily understood. For the benefit of project teams and the project as a whole, there should be little to no overlap existing between key roles and a clearly defined leadership structure should be established.

Crisis events and the management and overcoming of them can create significant risks on megaprojects. Joint ventures work well when the parties are in agreement and prior to any crisis involving high risk or high cost arising. Crisis events test the relationship of the partners and their ability to work through situations to their mutual benefit. Parties' joint venture agreements should establish frameworks for managing and weathering crises of all types. Yet even when joint venture agreements address how to govern through a crisis and who is responsible for what during the event, the pain experienced during crisis events may be too great for the parties to endure amicably. This is especially so when a crisis event requires the injection of working capital into the venture.

Just as one example, parties to a joint venture may need to inject working capital to cover cost overruns that the project owner refuses to cover. In such an instance, the joint venture members become financiers of the project. The parties' joint venture agreement must be very clear about how and when working capital will be needed, and who has the ability to make decisions related to capital calls. This clarity is needed regarding the size and frequency of such capital calls and to whom they may be directed. Without clearly established rules, the relationship of the parties may become strained, or worse, the parties may have disputes over the necessity for the calls.

Common Sense Recommendations: Careful consideration should be given to the type of joint venture structure that is appropriate for the particular megaproject being undertaken. Roles and responsibilities for each venture partner and the project as a whole should be clearly defined and transparent. Crisis events should be anticipated in the venture contract terms, including how the joint venture partners will evaluate and make decisions about how best to overcome them. The venture agreement should also establish the circumstances giving rise to the need for capital calls, including their size and frequency, as well as identifying the person or persons who have the right to make decisions about the need for and amount of any capital calls.

5. Parent Company Guarantees and Associated Risks

A Parent Company Guarantee (PCG) is a contract in which a contractor's parent company (guarantor) promises to complete the contractor's performance of the contract if the contractor is properly defaulted and terminated under the contract, and cannot pay costs, fees, and damages associated with completing the work. In a PCG, the guarantor's obligations arise only when the owner establishes

liability on the part of the contractor and the contractor cannot satisfy the financial obligations associated with its liability. The guarantor's obligations are thus contingent and dependent on the underlying contract, and the guarantor's obligations are no greater or less than those of the contractor. Typical PCGs and the guarantees within them end if the underlying contract ends.

PCGs are commonly used on megaprojects to provide alternative or greater security from and to project participants. PCGs may be provided in a complementary manner with other forms of security, including performance bonds, or as protection against risks not addressed in insurance. PCGs may also be provided in lieu of other security. PCGs can be beneficial for both the guarantor and the contractor.

PCGs generally contain provisions compelling the guarantor to correct defective or non-conforming work put in place by the contractor. They may also award damages, costs and attorney fee recovery to a claimant protected by the PDG in the event of material breach by the contractor. PCGs may also contain terms relating to the effect that new or additional work will have on the guarantor's responsibilities under the PCG. The duration of the PCG will generally be addressed and is typically tied to the contract and the duration of the contractual obligations. PCGs can be used for different contractual tiers and can be provided by a subcontractor's parent company to a contractor, from a contractor's parent company to an owner, or, to or from or among joint venture partners.

PCGs expose parent companies to damages, costs and fees associated with the contractor's material breach and termination from a contract. The corporate parent's upfront costs of the guarantee are minimal when compared to other security such as bonds. However, the ultimate potential financial exposure of the parent company may well exceed the costs the parent might have otherwise spent on a bond. When PCGs are offered as either primary or complementary security for performance, the long term potential exposures can be significant.

Common Sense Recommendations: PCG terms should be negotiated and developed with care by both the guarantor and the potential beneficiary of the PCG in the event of a default. Guarantors should strive for terms that allow it to "make good" claimed defective or non-conforming work, a process that permits guarantor to challenge claims by a potential beneficiary as a precondition to obligations accruing, and financial limitations on the extent of parent company's guaranty obligations. Potential beneficiaries of PCGs will want some form of financial disclosure from parent companies, guaranty obligations without limits, and the ability to quickly require a guarantor to fulfill its obligations.

6. Dispute Resolution: Typical Methods and Associated Risks

As with the rest of the construction industry, the dispute resolution processes on megaprojects have developed over time. Some of the processes are

aimed at efficiency and speedy dispute resolution, while others take a great deal of time and are quite costly. There are a variety of dispute resolution processes that are and could be used on megaprojects, each with particular risks.

A. Dispute Resolution Boards

Dispute Resolution Boards or "DRBs" are frequently required by megaproject contracts at the owner – prime contractor level, but also can be used at the contractor – subcontractor level (or a combination DRB that may consider claims at different contractual tiers). DRBs are typically composed of three board members, with the contractor and owner each choosing a board member and those two board members selecting the third. All three members will decide on a chairperson for the DRB.

DRB members convene on the project shortly after the Board is assembled, generally at the beginning of the project or at some point during the course of the construction. DRB members typically meet and visit the project quarterly, but if disputes arise, they may visit projects and hold meetings more often. On larger projects it is not uncommon for DRB Boards to meet monthly and receive reports and data regarding the status of the project. Over the course of a project, DRBs hear disputes, consider evidence, and provide non-binding recommendations to the parties aimed at resolving the dispute. Typically DRB hearings on a dispute will be preceded by written submissions by the parties, and a hearing will generally include a presentation and highlighting of documents, photographs, and other evidence supporting or negating a claim.

DRB recommendations are typically non-binding and either party may object to a recommendation to preclude any binding effect. Some DRB provisions provide that a DRB recommendation will be binding on certain types of disputes only, or up to a particular dollar threshold. DRBs may provide recommendations as to the merit of a given dispute only and reserve on quantum, or may provide a combined recommendation on both. Most DRB provisions require all or most disputes to go through the DRB process as a precondition of further dispute resolution by arbitration or litigation. Typically DRB recommendations are not permitted to be used as evidence in any subsequent litigation or arbitration, but this is not always the case.

There may be many disputes that must be heard by a DRB on a megaproject, big and small, and often involving the work of subcontractors or consultants. If a DRB provision requires consideration by the DRB Board of any dispute as a precondition to litigation or arbitration, the party forwarding claims may find the DRB process slow and unwieldly, particularly if the other party seeks to be uncooperative or if multiple trades are involved. Even scheduling DRB meetings and hearings can be time consuming where there are multiple disputes that need to be heard.

DRB members do not work for free, and the parties must pay for each hour DRB members work on disputes, including site visits, meetings and study time. This cost is in addition to the parties paying their own lawyers and other consultants to forward or defend against claims involving delay and schedule, changed conditions and directives, and damages. To the extent prehearing submissions and presentations are required, these costs can accumulate quickly. Where the DRB process is a prerequisite to arbitration or litigation, the DRB process may add greatly to the overall time and costs associated with project dispute resolution.

B. Litigation

Litigation is a dispute resolution process initiated by a lawsuit filed in a court of law and the parties to the litigation gather evidence from each other, make arguments to the court, and either settle their disputes or obtain a judgement from the court and/or a jury. Of all the methods of dispute resolution, litigation is generally deemed to be the costliest and most time consuming. Litigation can involve years of discovery and motion practice, resulting in significant legal fees and devotion of resources from the parties to prepare for and attend deposition, respond to discovery requests, and obtain and review needed discovery from the other parties or non-parties. Litigation also may be subject to preliminary limitations. Many contract provisions prohibit litigation until after the project is completed. If there are disputes early on in a five-year project, waiting until project completion to resolution can be untenable.

When litigation does commence, multiple parties and claims can result in protracted and complicated litigation. Where litigation will lead to a jury trial, the less predictable results may be. Even under the best of circumstances, litigation often does not provide the finality that many parties desire. Even if a party obtains a successful outcome from a trial judge or jury, the losing parties generally have appellate rights which can drag out the process for years before finality is reached.

C. Arbitration

Arbitration is a contractually agreed to dispute resolution process, generally administered by a dispute resolution entity such as the American Arbitration Association or Judicial Arbitration and Mediation Services. Arbitration turns over the power to determine disputes to an arbitrator or arbitration panel who will consider the disputes and provide binding resolution to the disputes in accordance with the parties' contractual agreement.

The discovery process is typically shorter than that of litigation and more limited. For complex high dollar matters it is typical for there to be just a handful of depositions, and limitations on both preliminary and even dispositive motions. Arbitration findings of fact and conclusions of law are binding and are not bound by precedent, civil procedure or the rules of evidence. Following an arbitration award the winning party may seek confirmation of the award in court and use

judicial process to enforce the award and collect on it. At the same time, for the losing party, there is a limited right to appeal an arbitration decision. Overturning an arbitration decision is very difficult and typically only permitted in verifiable and demonstrable cases of bias or fraud.

Arbitration can present risks due to the speed of the arbitration process, particularly if a party's position is not apparently strong factually or legally. There is less time to develop defenses and limited discovery to determine the necessary facts to support defenses. The lack of meaningful discovery in arbitration can arbitrarily benefit a party, or be a significant detriment, depending on the nature of the dispute and whether the information supporting a party's position is in that party's possession or exclusively in the possession of the opposing party. The more flexible legal standards employed by arbitrators may benefit or create a detriment for parties, depending on which side of the legal standard each party is on.

Common Sense Recommendations: Parties should scrutinize the dispute resolution process as part of initial project planning and contract development. Ideally all project participants should be bound by the same dispute resolution process. If this is not possible, contractors should carefully evaluate litigation and arbitration alternatives, as well as requiring all pre-suit / pre-arbitration alternative dispute resolution procedures.

7. Shifting Risk Through Insurance

Accidents and covered events are inevitable on megaprojects. It is imperative that the parties adequately and properly insure the risks of accidents and other covered events that may occur during the project, as well as after the project is complete. Insurance is often required contractually or by law, and works to shift the risk from the construction participants to insurance carriers. Participants in megaprojects must understand and evaluate the types of insurance available and coverages provided by the various insurance policies. The applicable limits of insurance must be reviewed to ensure that the risks are adequately covered and that there are no gaps in coverage. Gaps in coverage can leave the parties exposed to unanticipated and uninsured losses that can be catastrophic for the parties and the project.

For contractors and subcontractors, there are various insurance products that are typically procured. Commercial General Liability ("CGL") typically provides coverage for bodily injury and property damage from a covered loss. Given the size of megaprojects, CGL insurance is often procured through a project specific policy known as a Contractors Controlled Insurance Program ("CCIP"), which provides coverage to all enrolled contractors that participate in the construction. By enrolling contractors and subcontractors in a CCIP, the parties are able to ensure uniformity of coverage among the parties and provide smaller contractors and trade partners the ability to procure higher insurance limits than their standard general practice insurance policies, particularly if the project has participation requirements for

small, minority, or disadvantaged businesses. Another variant, an Owner Controlled Insurance Program ("OCIP"), furnishes similar types of coverage but is controlled by the owner as the name suggests.

Professional Liability Insurance is also imperative for managing and shifting risk on a megaproject. Professional liability insurance covers errors and omissions in the performance of professional services, such as design, engineering and certain consulting and construction management services. Unlike CGL insurance that only provides coverage for certain damage, injuries, and death, professional liability insurance coverage is significantly broader. Because a professional liability policy can cover damages caused by a design professional's errors and omissions, coverage often extends to cover delay damages and other impacts as a result of those errors and omissions. Professional liability insurance is typically procured by individual design professionals, yet in many instances design professionals do not have policy limits that are sufficient to cover the high degree of risk that the design professionals are undertaking on a megaproject. Professional liability insurance can be procured on a project-specific basis to overcome limited policy limits for design professionals but these products are fairly uncommon in the marketplace.

The owner often also procures its own insurance to protect itself and the project from accidents, errors, and omissions. Generally, the project owner carries two forms of insurance coverage: (1) builder's risk insurance, which covers certain losses suffered during construction, and (2) property casualty insurance, which typically covers certain losses after the completion of the project while it is being utilized for its intended purpose.

Builder's risk insurance is project-specific insurance that protects an owner's—and typically the contractor and trade partners'—interest in materials, fixtures and equipment being used in the construction of a project in the event of physical loss or damage from a covered cause. Builder's risk insurance policies are typically "all risk" insurance that covers various causes of loss such as fire and wind, as well as other perils as long as they are not expressly excluded from the policy. Depending on the language of the policy, builder's risk insurance may also provide coverage for ensuing losses or property damage caused by non-conforming or defective work.

Owners can also procure an Owner's Controlled Insurance Program (OCIP), which operates similarly to a CCIP in providing insurance coverage to all enrolled contractors, but the program is procured and controlled by the owner. The owner can also procure an Owner's Protective Professional Indemnity Insurance (OPPI), which typically provides the owner with its own insurance coverage as an umbrella over the design and construction professional's professional liability policies to cover the owner's damages for errors and omissions in the performance of professional services, such as design, engineering and certain consulting and construction management.

Common Sense Recommendations: The key to a successful insurance strategy on megaprojects is planning for and developing an insurance program that will limit or eliminate any gaps in coverage while keeping insurance premiums manageable. Project participants need to keep in mind the following when planning an insurance program for a megaproject:

- Understand what insurance programs will be used and whether the policies will be procured through project-specific insurance (CCIP or OCIP), or through the various practice policies provided by contractors, design professionals, and trade partners and the associated limits of those policies. If the project will rely on practice policies, it is imperative to ensure that the participants have adequate insurance to cover the risks associated with a megaproject. If the construction participants are unable to procure sufficient insurance, particularly if there are small business requirements, contractors should consider whether a project-specific policy would be more suitable for the project.
- Understand the owner's insurance program and negotiate insurance requirements in the contract that provide adequate protection for the construction participants. Megaprojects carry significant risk associated with delays and other impacts in the event of accident, errors, or omissions. Contractors should carefully evaluate and negotiate the types of insurance that owner is to procure, the specific coverages being procured, and whether the owner's insurance also protects the interests of the contractors, design professionals, and trade partners. Owner's insurance policies are typically bespoke or custom insurance programs, and it is important to know what types of policies and coverage the owner is procuring the ensure that any interests of the contractors, design professionals, and trade partners are adequately protected.
- Understand and negotiate required policy periods. Construction accidents are not limited to the ongoing construction project. Defects and property damage often do not manifest until years after the project is completed. For either practice policies or project specific policies, it is important that adequate insurance remains in place for the entire warranty period and statute of repose (the time limit for an owner or third-party to file a lawsuit against contractors or design professionals).

8. Protecting Against Default through Bonds

Payment and performance bonds are imperative on megaprojects, and often will be required by state or federal law. Payment bonds ensure that the contractors, as the bond principals, will timely pay their downstream subcontractors and suppliers, as required by law and the contract. Payment bonds protect the owner from liens and non-payment claims, but also protect subcontractors and suppliers from non-payment for work performed on the project. Performance bonds, on the other hand, protect the owner by securing the contractor's performance of the

construction contract under the bond. In the event that a contractor defaults on its payment or performance obligations, the payment and performance bonds ensure that a solvent surety company fulfills the contractor's obligations to the owner so that the project can be completed as contemplated by the parties' contract. Contractors on megaprojects also generally require their downstream subcontractors and sub-subcontractors to provide payment and performance bonds to protect the contractor against down-stream defaults and associated impacts to the project.

Bonds are typically required to be procured up to the full value of the contract. However, those requirements are often relaxed on megaprojects given the size of the contracts and bonding capacity of the construction participants. In Florida, for example, on public projects bonds are required to be procured for the full value of the contract, but only up to $250,000,000. *See, e.g.,* §337.18(1)(a)(2), *Fla. Stat.* For megaprojects, the bond amount must be in a reasonable amount to best secure project completion in the event of a default.

Although bonds are typically for the purposes noted above, the surety's obligations are dictated by the terms of the bond, which come in various forms. As to payment bonds, although sometimes dictated by federal or state law, payment bonds typically have specific definitions identifying the covered claimants, notice requirements, and other conditions before the surety has any obligation to perform. Performance bonds also come in various forms and have specific requirements as to notice requirements, default provisions for the bond principal, timing requirements for a surety's investigation and election of remedies, and other limitations or express coverages of the bond such as warranty obligations, coverage for delay, and attorney's fees.

Common Sense Recommendations: Given the dollar value of megaprojects, all bonding should be carefully reviewed and understood by bond principals, obligees and sureties, with consideration of the following:

- Bond principals must understand the bond forms that are being required and their implications. It is important for a bond principal to protect itself from a default and triggering the surety's obligations so that the principal can continue to perform without the involvement of its surety.
- Bond obligees should understand the bond forms that are being provided by down-stream parties. In the event of a default, the bond obligee should seek bond forms that provide for expeditious notice and involvement of the surety and prompt investigation of any default to minimize the impact to the project in the event of a default. If a party defaults on its payment or performance obligations, a bond obligee needs to ensure that the surety is promptly taking action to mitigate the damages caused by the principal default.
- Payment and performance bonds are typically collateralized through a General Agreement of Indemnity (GAI) with the principal of the bond and oftentimes parent companies, accounts receivables, personal guarantees, and other

business entities. In the event of a principal default that triggers the surety's obligations that causes the surety to incur costs, the surety will rely on the indemnitors for reimbursement. Bond principals should take all reasonable efforts to avoid a default and their surety's involvement in the project or they are putting their indemnitors at significant risk.

Conclusion

Due to size, megaprojects not only present heightened stakes for contractors, insurers, and sureties, they also require fresh consideration of insurance and suretyship strategies and other risks including contract terms, subcontractors, project delivery and establishment of joint venture arrangements. The key issues presented in this paper are just the tip of iceberg and multiple other complex and thorny issues will be presented to contractors, sureties and insurers as more and more public and private projects are conducted as megaprojects.