

**STRUCTURING AND MANAGING CONSTRUCTION RISKS
IN
PUBLIC PRIVATE PARTNERSHIPS**

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Introduction

The scale and scope of private sector involvement in public infrastructure, such as hospitals, schools, roads, public transportation, ice rinks, community centres, courthouses and energy, is rapidly expanding in many Canadian jurisdictions. Of course, even in traditional government procurements, the private sector was always involved in assisting governments in building and delivering public goods and services. For example, when a provincial government wanted to build a road or a hospital board wanted a new hospital, it would directly provide the financing but would turn to the private sector to build and often design the needed infrastructure. Starting in the 70's, governments, looking to unburden themselves of unnecessary financial commitments, started to "privatize" public assets. This approach, however, took the public sector out of the process completely, sometimes leaving important public goals up to private determination. Starting in the United Kingdom in the mid to late 90's, governments began to recognize the value in combining the public establishment of needed policy outcomes with the innovation and cost-effectiveness of the private sector in building and operating the institutions that would deliver them. This model, built on a centralized procurement agency with access to significant expertise, has now spread to British Columbia, Ontario and Quebec with variants in Alberta, New Brunswick and other provinces and territories.

The key elements of this new approach of partnering between the public and private sectors are three-fold: 1.) the use of private capital to build public infrastructure; 2.) clarity by the public sector in the "output specifications" it requires of the good and/or service; and 3.) the potential for innovation and synergies between design and operation. This new

model is commonly known as a public private partnership (“P3”). While these three factors are generally viewed as the core characteristics of a P3, in practice the definition of P3 can include a wide variety of relationships between the private and public sectors.¹

The five most common ones in Canadian jurisdictions are as follows:

(i) Build-Finance

In build-finance projects, the private sector assumes responsibility both for financing and building the project. The build-finance developer is responsible for securing sufficient financing and for working with the contractor to arrive at a viable construction price in order to put forward a competitive bid. Typically, the developer will be a Special Purpose Vehicle (“SPV”) who will contract directly with the lenders for the financing of the project and with the contractor for its construction. The SPV is usually a corporate alter ego of the contractor. Only once construction is finalized and certified by both the private lenders and the public sector as complete, will the public sector entity pay for and take ownership of the project.

(ii) Design-Build-Maintain (DBM)

Another permutation of the P3 model is the design-build-maintain project. In this scenario the private sector assumes responsibility for the design and construction of the project.

¹ The Canadian Council for Public-Private Partnerships has defined a P3 as, “[a] cooperative venture between the public and private sectors, built on the expertise of each partner, that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards.” Alternatively, Ontario Infrastructure defines P3s in terms of alternative financing and procurements (“AFPs”), which it describes as, “innovative way[s] for the government to deliver on its commitment to maintaining and expanding public infrastructure. Infrastructure Ontario’s AFP model uses private financing to strategically rebuild vital infrastructure, on time and on budget, while ensuring appropriate public control and ownership.”

After construction is complete, the public sector takes ownership, but the private sector entity continues to maintain the constructed facility under an ongoing maintenance agreement.

(iii) Design-Build-Finance-Maintain (DBFM)

In a design-build-finance-maintain project, in addition to design and construction of the facility, the private sector is responsible for the financing the project. As in the design-build-maintain model, once construction is complete, ownership of the facility remains with the public sector but the facility is maintained privately pursuant to ongoing maintenance obligations outlined in the project agreement.

(iv) Design-Build-Finance-Operate (DBFO)

In another variation, the design-build-finance-operate model sees the private sector, after having designed and built the facility with private financing, continue to operate and maintain it for the duration of the concession period, which may be 30 years or more. Ownership may remain with the public sector (through, for example a long-term lease arrangement) or the private sector is the owner and only after the agreement has expired does ownership of the facility revert to the public sector.

(v) Concession

Here, the private sector takes the risks included in the DBFO model but usage risk is added to the responsibilities transferred.

As a general principle, effective implementation of each of these models is highly dependant on an optimal allocation of risk between the public and private sectors. A P3 will be

more likely to succeed if risks are allocated to the party best able to manage such risk.² As a result, the risks associated with design and construction, operation, revenue, financing and certain changes in law and some aspects of force majeure and other traditional ownership risks, like site conditions, for these P3 projects are typically transferred to the private sector.

As the primary project entity is an SPV, these risks are further passed down so that with respect to construction risk³, the contractor will be responsible for all of the usual construction risks associated with any project. These obligations will include defects and deficiencies in construction, scheduling issues, site health and safety, labour, materials and construction equipment. The contractor will also likely be responsible for bearing additional risk that arises as a result of the unique nature of the P3 arrangement. The contractor will therefore often be asked to take on risks related to site conditions, resource availability, equipment procurement and installation, permits and approvals, labour, changes in law and force majeure, all or part of which risks under a traditional project would have remained with the owner. As well, since P3 projects tend to projects of a significant size (i.e. hundreds of millions of dollars), there is an increased risk on the contractor to accurately price the scope of the work. A mistake in pricing could have serious impact on even the most robust contractor.

Moreover, since the private sector's involvement in the project will often last much longer than the construction period, as in a P3 with a maintenance or an operational concession period, the risks relating to the ongoing private sector involvement will need to be

² de Bettignies, J-E., and Ross, T., "The Economics of Public Private Partnerships", *Canadian Public Policy*, 30(2): 135, at p. 139.

³ In some circumstances, the public sector may retain some portion of the construction risk, including, for example, the design risk, owner-caused delays, concealed or unknown conditions and environmental concerns. See Reynolds, R. B., Glaholt, D. W., & Kirsh, H., "Construction Risk in Public-Private Partnerships in Canada", Canadian College of Construction Lawyers, (Proceedings, 10th Annual Conference; 2007) [Reynolds].

apportioned among the private sector participants. It will be the objective of the solicitors involved in structuring the project to also align these risks with the party most able to manage and mitigate them. Some of the risk will fall to the contractor, even though its direct involvement in the project might otherwise end with the facility's successful construction; for example, the contractor typically retains all risks associated with construction warranty obligations and may retain some obligation related to latent defects beyond the standard six-year limitation. As noted below, the contractor's involvement may also be protracted where the contractor has an interest in the SPV.

Another significant difference between P3s and traditional construction contracts relates to the role of the project lender. In traditional approaches, lenders are generally not overly involved in operational issues, instead relying on their security in the land on which the project is being built and other assets so that their loan is not at risk with respect to the efficient or proper functioning or operation of the facility. In a P3, however, private financing is a key element in securing the risk transfer in a P3 deal, because repayment of the private financing is tied to the performance by the private partner of the obligations under the project agreement.

The fact that private capital, and in particular debt, is at risk to the performance of the private partner, is one of the strengths of the P3 structure. The lenders act as a form of "performance police" to ensure that the project entity and its subcontractors perform the project agreement obligations. A technical advisor will be retained to monitor on a monthly basis the construction process and, subsequently, the operational phase of the project. Lenders will be motivated to take whatever steps are necessary to fix a non-performing P3 because their ability to recover their funds is dependent on the private partner being paid, which in turn is dependent on satisfactory performance by the private partner. As a quid pro quo to this risk assumption by

lenders, they have the opportunity to rectify defaults, or situations that could lead to default, before termination of the P3 agreement. Rectification by the lenders can include going as far as replacing the private partner with a new partner.

While this project finance structure is often referred to as non-recourse financing, it is more accurately limited recourse as lenders will seek to add performance guarantees, liquidated damage provisions, assignment of contracts, parent company guarantees, insurance and bonding and other security. Since the borrower for each project is typically a minimally capitalized SPV, the lenders will also seek to ensure that none of the risks that the public sector has transferred to the private sector through the project agreement is stranded in the SPV. Obviously, as risks are “dropped down” from the SPV to the construction company and the operator or service-provider, there exists a requirement that the transferred risks be covered appropriately between the operator and the constructor. This is addressed by way of an interface agreement between the key contracting entities within the project structure. The interface agreement and the respective dropdown agreements will also include an “equivalent project relief” provision, which contractors should understand. The EPR principle is simple in concept and may be challenging in practice: the construction contractor and service provider are only entitled to relief under their respective agreements to the extent that the SPV obtains any relief under the main project agreement.

As a result, lenders will be looking for a construction contract that includes the following key terms:

- a fixed completion date for construction;
- a guaranteed completion price;

- full design and construction risk pass down;
- performance guarantees;
- liquidated damages for delay;
- security from the contractor and/or its parent;
- limitations on contractor termination rights;
- equivalent project relief provisions;
- large caps on liability; and
- restrictions on the ability of the contractor to claim extensions of time and additional costs.

The “drop down” construction contract will include all of these requirements as these provisions are crucial to ensuring the “bankability” or “financeability” of a project.

Transferring Construction Risk in P3 Transactions

(a) Public Sector Benefits

Under a traditional procurement model, the public sector assumes responsibility for many of the construction risks that cause cost and schedule overruns. By contrast, the transfer of construction risks to the private sector in P3 projects can result in the following advantages to the public sector:

(i) *Assumption of Financial Risk by Private Sector*

P3s are financed by the private sector, rather than using funding from tax revenues or public borrowing. Private and not public capital is therefore at risk until project delivery or thereafter to the extent of the payment of annual availability payments. Indeed, in concession arrangements or other models where the revenue risk is also transferred, the private sector may assume the entire financial risk. Either of these approaches transfers significant risk from the public authorities and tax payers to private sector organizations and shareholders. The public sector is responsible for setting out detailed output specifications or public services that the project is designed to provide, leaving the private sector with the responsibility to design, construct and operate the facility. Where the timing of payments by the public authority is a relevant consideration, this access to private funding may also enable infrastructure to be built where no public funds are available for up-front capital investments.⁴

(ii) *Payment at Commencement of Operation – On Time Construction*

In traditional public sector procurement, the public authority makes payments to the general contractor during construction. By contrast, under the P3 model, public authorities are not required to make payments until the project is substantially complete and the project facility is providing services. As a result, there is a robust incentive to construct P3 projects on time. Until the facility is available for use, the project entity will not receive any income or availability payments. Project SPV's, supported by lenders, will ensure that the terms of the dropdown contracts maximize the likelihood of on-time construction.

⁴ Timothy Murphy, "The Case for Public-Private Partnerships in Infrastructure", *Canadian Public Administration Journal* (2008) Vol. 51, No. 1 at 101.

(iii) *Decreased Change Orders – Clearly Defined Public Goals*

In a P3 project, the private sector generally assumes responsibility for both the construction and design of the project facility to meet the output specifications drafted by the public authority. In order for the project to be accurately priced, the public authority should produce as clear and concise a set of output specifications as possible. Generally, these will be embodied in a draft project agreement with detailed schedules outlining a clear risk allocation, which will be available before bids are due and upon which the bids will be placed. Generally, the “Contract A” document will obligate bidders to sign the project agreement “as is”, subject only to minor changes. While the project agreement may provide a variation procedure, it is often cumbersome and can require lender approval. This arrangement helps to eliminate the risk, either from government bureaucrats changing their minds or contractors seeking to improve their profit picture, that change orders will inflate the price of the project after the decision is made to proceed. The bids set the price and the risk of meeting the specifications at that price is transferred to the private sector.⁵

(iv) *Reduction of Cost-Overruns – On Budget Construction and Operation*

A P3 model can be used by the government to effectively eliminate the public sector impact of cost overruns, provided that the government can effectively define and negotiate output specifications in the project agreement and then supervise compliance during the operations phase. The public sector pays the private sector based on pre-determined service fees, which usually include deductions for failure to meet output specifications, but do not include

⁵ E.R. Yescombe, *Public-Private Partnerships Principles of Policy and Finance*, (Butterworth-Heinenmann, 2007) at p. 19.

allowances for cost overruns during construction and maintenance of the facility. This transfer of risk creates a strong incentive for completing construction on time and on schedule and limits the public sector exposure.

(b) Public Sector Disadvantages

In addition to the advantages described above, P3s can result in potential disadvantages to the public sector, including:

(i) *Increased Transaction Costs*

Transaction costs may be higher in P3s than in traditional public procurements due to the higher cost of public borrowing and significant procurement costs. However, the comparison of transaction costs must take into account the benefits gained through the risk transfer in P3s. A well-negotiated P3 can offer significant value for money where the risk of on-time and on-budget delivery of procured assets is optimally allocated to the private sector. Obviously, the key issue is the valuation of the transferred risks compared with the increased financing and transaction costs.

(ii) *Reduced Transparency and Accountability*

The possibility of reduced transparency and accountability are often raised in the context of P3 projects. Concerns about secrecy and unfairness in the bidding process have led many Canadian jurisdictions to adopt disclosure standards to ensure information is disclosed to the public to the greatest extent possible without jeopardizing the public sector's ability to generate optimal value-for-money. For example, Infrastructure Ontario's procurement process involves delivery of disclosure statements and publically available value-for-money assessments

for each P3 project within six months of financial close.⁶ The key project documents are posted online as is information about each step in the procurement process. Accordingly, if managed properly, P3s can provide transparent information to citizens and hold the public sector accountable to achieve enhanced value-for-money projects.

(iii) Credit Crunch

The global credit crisis could potentially impact the financial viability of P3s even as governments extol the macro-economic impact of infrastructure investment. Lenders are now considerably more cautious when providing financing for private companies building public projects. The cost of borrowing has risen significantly, the covenants required are getting tougher and more numerous and loan sizes are decreasing. As a result, the rising cost of private financing may mean that the value of the risks transferred to the private sector combined with the operational efficiency of the private sector in P3 projects may no longer offset the reduced transactional costs associated with traditional government procurements.

Construction Contractor Beware

It is important for general contractors and subcontractors to be aware of the kinds of construction risks assumed by the private sector through P3 transactions. Such knowledge can help contractors negotiate an optimal risk transfer, and then manage and account for the risk through appropriate contractual arrangements, bonding and insurance.⁷

⁶ *Ibid.* at p. 110.

⁷ W. Andrew McLauchlin & Jody Becker, "Managing the Risks of Design/Build Construction Contracts", (McLauchlin and Associates) at p. 2 [McLauchlin].

The risks and responsibilities assumed by the contractor will vary depending on the role that it plays in the consortium of private sector participants engaged for the project. Where the contractor assumes the dual role of developer/ contractor or that of lead member of the consortium, it will be exposed to additional risk and carry additional responsibilities.

The contractor, acting as consortium lead, will often take primary responsibility for negotiating the terms of the arrangement between the consortium and the public sector entity. Among other things, this will entail negotiating with consortium team members, including equity contributors and service or operations subcontractors. The contractor may also be involved in retaining the various professional advisors including consortium counsel, financial model auditors, tax advisors, accounting advisors, lender counsel and lender technical and insurance advisors. Further, the consortium lead will often be responsible for developing term sheets and negotiating final credit and equity contribution agreements with the project's financiers.

One issue that contractors and their counsel will need to pay particular attention to arises when a contractor has an equity stake in the consortium. Here, there is the potential for a difference in interest between the contractor as contractor and as equity or project entity participant. The equity in the deal will want to ensure that as many risks are passed onto the contractors as possible so that obligations not otherwise mitigated, such as damage repair, for example, or liquidated damages, are met by the responsible contractor and not by further equity injections. Where these interests diverge, counsel engaged on behalf of the project will need to exercise caution to ensure that the equity interests in the project are well-advised and protected.

(a) Types of Construction Risks in P3s

(i) *Assumption of Increased Financial Risk*

As the private sector must assume greater financial risk than in traditional construction projects and since the SPV is generally required to pass down risk to its construction and service provider subcontractors, construction contractors can be contractually required to take on financial risk. This can include the cost of carrying the debt during delays in project completion that may not be the fault of the contractor but which are not, in any event, immediately compensable under the project agreement. For example the EPR principle can mean that any project costs arising from delay and which are not compensated for by the public sector until project completion will have to be carried by the construction contractor in the interim.

In addition, the credit crunch may impact the ability of private sector stakeholders to secure adequate financing on appropriate terms to finance P3 projects. As lenders press for greater security from subcontractors for performance of their “passdown” obligations, the additional covenants can cause problems with sureties or sub-subcontractors who will not accept the additional risk pass-through. As a result, it is more important than ever for contractors to anticipate the types of events that could hinder successful completion of the project and to develop strategies that allocate these contingencies appropriately.⁸

⁸ Banfai, G., Barry, T.A., Beaumont, R., Roth, L., *Construction Risk in Public-Private Partnerships in Canada*, Canadian College of Construction Lawyers, (Proceedings, 9th Annual Conference; 2006) at p. 8 [Banfai].

(ii) Subcontractors

Due to the strict timelines and technical expertise required in many P3 projects, highly specialized subcontractors will often be required. For these large scale projects, some of the subcontracts, including those for the mechanical and electrical work which may be a significant percentage of the overall cost of the project, can have values of \$50 million or more. As such, the expertise and experience of these subcontractors or suppliers will be essential for the successful and timely completion of the project. While some subcontractors may be prequalified, nonetheless, contractors will want to ensure that high quality and reliable subcontractors are available to construct the project. It will also be of critical importance to ensure that the construction contract and all subcontracts have a mechanism to address the withdrawal or default of key parties. The contractor, as a result, will often require substantial security from these subcontractors, in the form of bonding, insurance, indemnities and liability for liquidated damages arising from their delay. In addition, lenders and the project entity may require that these subcontracts include assignment provisions that allow the continuation of the subcontract on its existing terms even in the circumstance of contractor default and termination.

(iii) Design risk

Except where the public sector takes responsibility for the design of the project, as in the build-finance model, the design risk will fall to the private sector participants. The proponent will assume responsibility for the constructability, completeness and coordination of the design, as well as any conflicts or interferences in the design documents. Depending on the structure of the consortium, the design risk might be allocated to an architect/engineer, or shared more widely amongst the participants. At its highest, the construction contractor will directly assume the design risk from the SPV and subcontract the obligations to the architect. Regardless

of who is responsible for design risks, a project that calls for an ongoing maintenance or operational component will increase the risk assumed by the design professionals, particularly as it relates to “fitness for purpose” requirements. A poorly designed project might, for example, perform acceptably but have exorbitant maintenance costs, placing disproportionate burden on the party charged with ongoing maintenance. That party is generally the service provider who will be looking to ensure that those risks, as much as possible, are contractually allocated to someone else, usually the contractor. Ensuring that the risks associated with the ongoing consequences of the project’s design are assigned to the appropriate party will ensure that the parties in the position most able to offset the risk are those who have the incentive to do so.

(iv) Key differences in role of architect/consultant

Under the P3 model, the public sector will transfer to the private sector not only the risk of the design of the project but also the administrative oversight of the project, the role typically assumed by the consultant. The project consortium will be responsible for retaining on behalf of the owner a consultant or independent certifier who will act as the owner’s representative during the course of the project and who will provide to the owner reports and evaluations on the work being performed. The independent certifier will also advise the owner with respect to whether the project is on schedule and whether any significant problems have arisen during construction. In addition, the independent certifier may have a role to play in the resolution of disputes between the consortium and the government sponsor of the project.

However, because these projects are typically financed privately, the owner’s independent certifier will not be the payment certifier for the project. The consortium will be required by its lenders to retain an independent third party valuator. This valuator, or technical advisor will be retained in the early development of the project and will also undertake

responsibility for thorough due diligence and oversight to ensure problems are identified and resolved. The lenders' technical advisor will be responsible for ensuring that the work performed is in accordance with the contract documents, for certifying payments and for confirming the achievement of particular project milestones, including substantial performance of the work.

(v) *Supervening Events*

It is important to ensure timely completion of a P3 project because service fees are typically tied to completion or the service availability date. However, supervening events can lead to delays in project completion or increased costs. The term "supervening event" generally applies to any event that can cause such a delay or increase in cost or a change in scope, only some of which may result in compensation or an extension of time to the SPV under the project agreement. These delays can have negative consequences for the private sector, including increased financing costs, deferral of operation revenues, reduced investor returns and the provision of penalties, such as liquidated damages. Supervening events can include many or all of the following separately or in combination:

- Changes in Law
- Variations
- Delay Events
- Compensation Events
- Excusing Causes
- Relief Events
- Force Majeure
- Default.

Contractors and the lenders and the SPV may be at odds as to who should bear the risk of supervening events or any gaps in compensation or gaps in debt payment coverage or the costs of extensions of time arising from a supervening event because the financial model for the project and the commencement of payments by the public sector are generally centred on the project completion date. While a contractor will be interested in maximizing flexibility, the cost or timing impact of supervening events will have already been defined in the project agreement and the lenders and the SPV will want to ensure that those risks are dropped down to the construction contractor and/or service provider. As a result, the contractor will want to ensure that it has reviewed the risk allocation in the project agreement and provided comments upon it to consortium counsel and through them to the public authority before the project agreement upon which the bid is to be submitted is finalized. The time for negotiating the impact of delays is during the comment phase and while the term sheet for the construction drop down contract is being negotiated. Some of the key supervening events are discussed below.

(vi) *Relief Events*

While the terms will vary depending upon the jurisdiction, relief events are those which result in project delays or insufficient performance of contractual obligations, but which cannot be controlled by the private sector party who has assumed such risk and for which the public sector may provide relief from such events, but not compensation. Generally, these delay events are limited to those that, for example, will affect the critical path of the construction schedule. The public authority as a result may, for example, extend the date for project completion (without, however extending the term) or suspend the payment of service fees during relief events and waive any penalties or claims for liquidated damages during such events. However, any additional costs arising from a relief event will not be subject to compensation.

As a result, care must be taken in reviewing the provisions in P3 agreements because some risks, such as change in law or force majeure, are restricted from what one would expect in a “normal” CCDC contract context. In addition, in these circumstances, the lenders may look to the construction contractor to assume the cost risk of these delays.

(vii) *Change in Law*

In traditional contracts the contracting party is usually able either to pass along any resulting increased costs to its customers from any change in law or the term of the agreement is sufficiently short to allow the contractor to account for current and foreseen laws in its price. In the P3 context, change in law risk is generally shared. Costs associated with discriminatory changes in law, in other words, ones that are targeted at a particular project or projects of that nature are generally borne by the public partner. In addition, changes in law that were not foreseeable at the time of entering into the project agreement by an experienced contractor and which add a cost burden to the project may be compensable, provided that notice, mitigation and insurance provisions are followed. The key principle is that the SPV be put in no better position that it would have been but for the change in law. However, foreseeability is an inherently malleable concept and, as time progresses, it may be more difficult to define. For example, the risk of changes in income tax law and other laws of general application may be broadly foreseeable and need to be borne by the SPV. The sharing of change in law risk by the private partner may give rise to the need for reserves to be established by the private partner (usually driven by lender requirements). This serves to force all parties to consider the actual cost of risk allocation (and a good reason to involve the lenders early in the project negotiations with the public sector).

(viii) Force Majeure

P3 force majeure provisions tend to be defined more narrowly than the standard form CCDC definition and can carry different consequences. Force majeure provisions tend to include only those events that would impact all or a material part of the project obligations, such as civil commotion, war, acts of God, sectoral labour disputes, fire, causes beyond Project Co's control but excluding extreme weather, lack of funds, shortages of labour or materials or any event caused by the SPV or related parties and subcontractors. Force majeure events will usually only give rise to time extensions or payment relief but may not provide for any other compensation. Force majeure events that continue for longer periods, such as 180 days, can give rise to project termination rights, including compensation.

(ix) Variations

P3s tend to provide very limited circumstances for variations to the contracted for services. This both forces the public sector to accurately define its needs up front and serves to limit the potential for making money from change orders – a tried and true method for generating profits on traditionally procured governmental projects. It should be noted, however, that the add-on charges permitted under a variation can be limited under a P3 agreement and, based on the EPR principle, the contractor will be limited in its claim for costs arising from the variation to that amount the SPV receives as compensation for that variation from the public authority.

(x) Project Completion

The financial modelling of the payments on P3 projects will generally provide a cushion between the projected completion date for the facility and the maximum time permitted for construction under the project agreement, called the longstop date. Generally, lenders will

require 6 months of the cushion often leaving the contractor with as little as 3 to 6 months of flex time before the SPV and the lenders can take the ultimate step of terminating the contractor. Lender and the SPV may also seek indemnities from the contractor for all the costs arising from the failure to meet the longstop date.

(xi) *Faulty Construction*

As payment by the public authority hinges on project completion to the requisite standard and deductions from annual payments can be made for substandard facilities, lenders and project entities will provide for inspection, information and reporting obligations throughout construction by independent consultants. In addition, significant incentives and/or penalties will be included in the drop down construction contract to ensure on time and quality construction of the facility. These may include liquidated damages, construction reserve accounts, bonds or letters of credit, more complete insurance coverage and other similar provisions. Accordingly, contractors should take particular care to supervise the quality of work and materials used in construction projects and ensure the required standard of supervision of the work and of subcontractors and suppliers is included in the contract price. In addition, the scope and nature of insurance in P3's will be broader and more expensive than in an average CCDC contract and contractors will need to negotiate appropriate insurance coverage extensions to cover the additional risks. Finally, because the service provider for the concession term will be contractually obligated to maintain and operate the facility to a fixed standard, including providing for repair of defects, contractors will face pressure to extend their normal warranty and defect repair provisions.

(xii) Cost Escalation

Construction cost overruns in P3 projects including wage and engagement price inflation are generally absorbed by the SPV and will therefore be passed down to the contractor. In addition, many P3 projects place significant equipment procurement and installation obligations on the contractor. Accordingly, it is important for contractors to develop and implement strategies to reduce or appropriately deal with factors, such as delays, faulty equipment and inflation, that can lead to cost overruns. As a result, contractors will include provisions for liquidated damages, price certainty and other similar clauses in their subcontracts.

(xiii) Construction Reserve Accounts and Debt Service Coverage

Reserve accounts are used in P3s to protect the project company's liquidity were there is a temporary shortage of cash-flow. Reserve accounts are also used to segregate funds for purposes such as maintenance or insurance in the event of delays. Where a construction risk translates into an overrun in construction costs, additional funding may be contractually required through reserve accounts (as well as through liquidated damage provisions or reserves on account of liquidated damages). These reserves are in addition to traditional holdback amounts.

Mitigating Construction Risk in P3 Projects – Protecting Yourself from Liability

Exposure of the SPV to the various types of construction risks discussed above can lead to situations where there is insufficient funding available to complete the P3 project or where the returns for investors are significantly reduced. These are mitigated by passing the risk on to the construction contractor and/or the service provider. The construction contractor, in

turn, can also mitigate the negative effects of these construction risks by passing some of the risk on to its subcontractors and suppliers but also through insurance, surety bonds and other contractual agreements and procedures.

(a) Insurance and Bonding

(i) *Construction Insurance*

Obtaining cost-effective and appropriate construction insurance is a critical strategy to mitigate the risks inherent in P3s. There are a number of standard insurance policies specific to the construction industry. A Builder's Risk Policy is a broad insurance policy that covers both the owner and the contractors on a project for loss or damage prior to the completion of the project. Alternatively, "installation floaters" may be used by each individual contractor or subcontractor to insure his or her own work. In either case, the insurance policy will either cover "all risks" or "named perils". The later policy, as its name suggests, covers losses caused by an enumerated peril like an explosion or a flood. An all risks policy is intended to provide broader coverage as all risks of loss are insured except those specifically excluded.

In all cases, it is important for the contractor not to assume that its standard coverage will include the perils required to be covered under the particular P3 contract and contractors should take care to negotiate additional protection, if required. For example, an all risks policy may appear to cover all types of losses, but in effect, many of these policies do not cover damages that would be covered by some named perils policies. Furthermore, typical exclusions in standard policies include materials in transit, flood damage, faulty workmanship or materials, and faulty design, some of which may be required coverage or a useful mitigant.

Another concern is that some policies may only cover the property for a specific duration of time or end at occupancy. However, the contractor risk may extend beyond occupancy to up to and including the project completion date. Accordingly, before formally entering into the insuring agreement, contractors should ensure that the policy applies for a length of time and amount of coverage that accord with the contractual obligation of the P3 project.

In many cases, the P3 project agreement will include a specific insurance provision, including a schedule of required insurances. Lenders may then add further coverage to those required by the public authority. Some of the standard requirements include:

- All Risks, including boiler and machinery
- Wrap-up liability
- Contractor's pollution coverage
- Automobile
- Comprehensive general liability
- Equipment insurance
- Professional liability (design).

In addition, special limits, deductibles, exclusions and coverages will be required, including soft costs, delay in start-up, profit, resultant damage, testing and commissioning etc. Additional insureds, such as the lenders and the public authority may also need to be added to the policies.

To match coverage with risk, contractors will want to ensure that they have retained the services of an insurance consultant to advise on the contractor's existing policies and

the degree to which further coverage is required by the project agreement and the construction contract. In addition, contractors should be aware that the SPV will seek to transfer to the contractor any risk that arises from the unavailability of insurance proceeds either due to default, failure to notify or delay in payment. Finally, most of these project agreements will include an insurance trust agreement, which gives a trustee, and not the contractor, control of the proceeds of insurance paid out on the occurrence of an insurable event.

(ii) *Subguard Insurance*

Subguard insurance is a relatively new insurance product, designed as an alternative to surety bonds. It is used in large construction contracts to help manage the risk of subcontractor or supplier default. The insurance company will conduct an assessment of each subcontractor and provide coverage only to those that are approved. A contractor can call on the insurance, subject to the appropriate deductible, to cover the cost of completing the work or supply of the defaulting subcontractor. Unlike a labour and material bond, however, subguard insurance does not protect subcontractors against the failure of owners or general contractors to make payments to the trade subcontractors on a timely basis.

Contractors generally have a broad policy which applies to all of the projects undertaken by that contractor with both a claim and an aggregate limit. As a result, SPV's and lenders will seek to enhance the protection by obligating contractors to purchase project specific insurance and to provide a gap bond to cover all of the contractor's self-performed work. This model is generally cheaper than performance security provided through 50/50 bonds alone.

While subguard insurance may protect the owner or lenders as an additional insured to the policy through a financial interest declaration upon termination, the protection is

different than that provided by a performance bond. With a bond, the SPV or lender calls on the surety to fix the default of the contractor, which may include the failure of the subcontractors for which it is responsible and which may include replacing the contractor with a new one. With subguard, contractor default is not covered except through the gap bond and as the new contractor may not have rights under the subguard insurance, the owner may need to be considerably more active in enforcing the insurance.

Sureties and lenders are both reviewing these arrangements with considerably more scrutiny as credit tightens, which can have implications for construction contractors. Sureties are seeking to ensure that the definition of work which the gap bond covers is very narrowly described and, more generally, are seeking to push the contractor to the more traditional bonded structure. Finalizing these arrangements is often difficult and contractors are well advised to consult with their sureties early in the process of bidding on a P3 project.

(iii) Surety Bonds

A surety bond will ensure project completion where a contractor or subcontractor defaults on his obligations under the construction contract. Usually, it is necessary for a contractor to procure a bond as security for entering into a construction contract before bidding on the project. There are three parties to a surety bond: (1) the surety, which acts as the guarantor and issuer of the bond; (2) the principal, the contractor or subcontractor, whose contractual obligations are being guaranteed by the surety; and (3) the obligee, typically a general contractor or owner, to whom the principal's obligations are owed. The surety's obligations under the bond are joint and several and are triggered only if the principal fails to fulfill its obligations to the obligee. Such situations of default are highly dependent upon the terms of the

construction agreement and may include: insolvency of the principal, failure to fulfill the required work or abandonment of the work site. The surety's maximum liability under the bond is limited to the amount explicitly stated in the bond.

(b) Limitations of Liability

The existence of limited liability clauses in construction contracts can reduce the amount of damages recoverable from a contractor when there is a breach of the agreement. Again, the SPV will seek to match the limits of and exposure to liability outlined in the project agreement in the drop down construction contract. Contractors will want therefore to provide any comments on limitations of liability outlined in the project agreement to consortium counsel at an early stage. Generally, P3 projects provide for some degree of overall liability cap depending upon the project size and will limit claims to direct losses. However, there are exceptions to these limits of which contractors should be aware. Generally, any limit on liability excludes any amounts for which insurance proceeds ought to have received, the contract price for the facility (or a percentage of the facility cost), claims arising as a result of fraud or relating to specific indemnities in the project agreement. Further, there is the potential for overlap between the obligations of the contractor and the service provider and, as a result, the interface agreement will need to include provisions governing the limits of liability for claims between the service provider and the contractor to reflect the agreed risk allocation.

Contractors will want also to seek limits to its exposure for liquidated damages and for its responsibility to "backfill" gaps between compensation paid by the public authority and the obligations of the SPV. Finally, contractors will want to resist any additional indemnities which may be requested by lenders.

(c) Early Intervention with Project Agreement

As has been argued throughout, early intervention in the development of the project agreement can help contractors anticipate potential risks and develop appropriate strategies to minimize them. Early intervention in the P3 process can also lead to more risk-sharing with the public sector or increase the amount of risk that the public sector is willing to retain. As noted above, the lenders and the equity backers of the SPV will be powerful allies against the contractors in ensuring that all project risks are passed down to either the construction contractor or the service provider. As a result, the time to negotiate, if possible, a better risk allocation is prior to the finalization of the project agreement and during the negotiation of the key term sheets. Generally, absent special circumstances, it is too late to fix much once the bid has gone in.