ASIAN DEVELOPMENT BANK

TA 7055-IND: Capacity Development of National Capital Region Planning Board (NCRPB) – Package 1 (Components A and C)

Risk Management Manual and Risk Framework

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Acronyms

BOT	Build Operate Transfer
CC	Concessional Contract
CPI	Consumer Price Index
NCR	National Capital Region
NCRPB	National Capital Region Planning Board
PDF	Project Development Fund
PPP	Public Private Partnership
PSP	Private Sector Participation
VFM	Value for Money

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I. Introduction

1. In India, state and local authorities are responsible for the provision of a wide and diverse range of public services. All these activities involve some form of risk – risk that planned levels of service delivery will not be met, or might be delayed, risk of financial loss, fraud, waste or inefficiency. Recent cognitional risks include the risks of missing opportunities to deliver services in new and better ways, and achieving the project value-for-money (VFM).

2. There are many management approaches to fulfill the value-for-money objective, such as benchmarking with performance indicators, and best practice, etc. One of the major ways to achieve the value for money objective is to bring risk management into governmental business development. Without a good risk management process, NCRPB and local government authorities are unlikely to achieve competitive advantage and excellent performance. The objective of this manual reflects specific requirements of NCRPB to offer guidance on risk management. This manual should be viewed primarily as a contribution to a shared Government of India wide culture in the field of risk management and has been written with a view to meeting the needs of a wide range of users, including desk officers of the NCRPB, civil servants in the National Capital Region and consultants in the preparation or evaluation of projects.

3. This document is part of a suite of guidance material (i.e. Project Appraisal Manual, PPP Manual) issued by the NCRPB to provide guidance on key technical issues that arise from the development and implementation of public sector investment projects and public private partnerships in the National Capital Region. The supporting documents detail the following issues related to **risk management**:

i. Project Resourcing;

ii. Probity and process governance;

iii. Business case development; and,

iv. Contract development and Management.

4. This document should be read in conjunction with other guidance material (i.e. Project Appraisal Manual, PPP Manual) as each contain relevant information that is not duplicated herein. The purpose of this risk management supporting document is to:

i. Introduce risk and risk management in a project development and public private partnership (PPP) context;

ii. Identify major risk relevant to PPP projects and outline the associated commercial issues;

iii. Increase NCRPB's understanding of risk allocation and the likely objectives of public and private parties when negotiating risk allocation; and,

iv. Indicate the government or NCRPB's preferred position on allocating major risks and offer guidance to practitioners on how these risks should be address in their particular project.

5. The term 'risk' in the context of this document is defined as 'the chance of an event occurring which would cause actual project circumstances to differ from those assumed when forecasting project benefits and costs. This manual describes the

characteristics of risk management and the various forms its can take and addresses the following topics:

i. Introduction of risk and establishes the guiding principles.

ii. Identifies the major risks in projects and public private partnership projects and discusses related commercial and legal issues.

iii. Provides risk allocation matrices illustrating the range of risk that may apply and broadly sets out the likely preferred allocation of risk from NCRPB (and the local government's) perspective.

II. Achieving Value for Money

6. Value for money (VFM) is a term used to assess whether or not a project (or organization) has obtained the maximum benefit from the goods and services acquired. For example, a service should be undertaken as a public private partnership if it offers the government a better value for money outcome compared with delivery of the project by traditional procurement.

7. Value for money is achieved by allocating risk optimally. The governing principal of a project's risk allocation dictates that risk should be allocated to the party best able to manage it. Such optimal allocation reduces individual risk premiums and the overall cost of the project because the party in the best position to manage a particular risk should be able to do so at the lowest price. Overall, achieving value for money can best be described by the following terms:

i. Economy – Minimizing the costs of resources (doing things at a low price);

ii. Efficiency – Performing tasks with good effort (doing things in the right way); and,

iii. Effectiveness – To the extent to which objectives are met (doing the right things).

8. However, it should not be the local government's intention to transfer all project risk to the private sector as inappropriate risk transfer will generate and carry a significant premium.

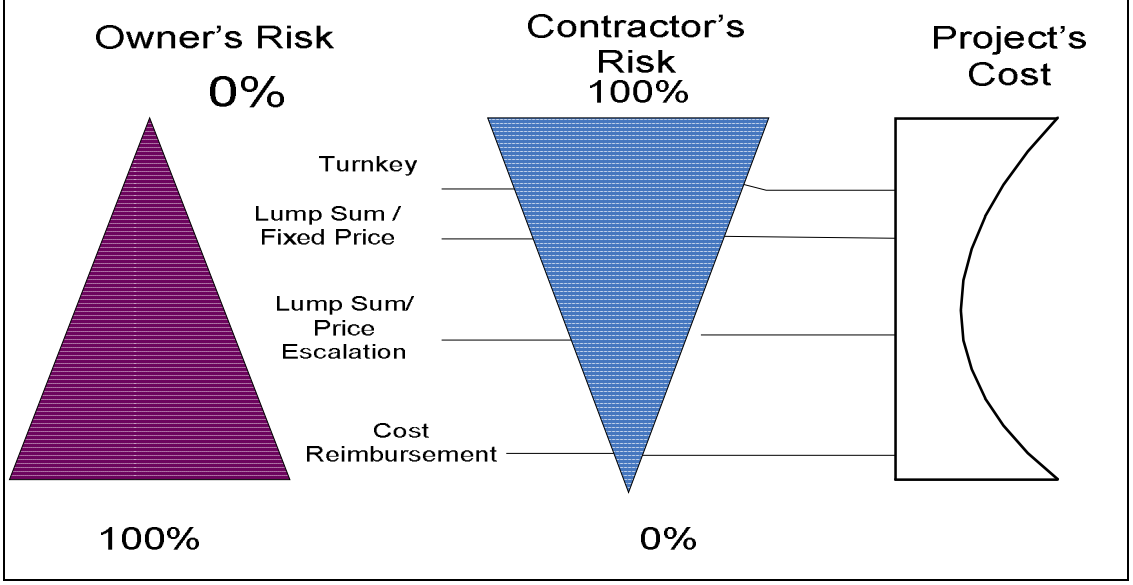
2.1 NCRPB's Preferred Risk Position

9. Even though NCRPB's likely preferred risk represents the risk allocation position generally acceptable to government in a privately financed public private partnership project, it is not intended to be an inflexible position that claims to define absolutely the boundaries of acceptance of risk by NCRPB (or government) in every project or PPP project. The final risk allocation position in a particular project generally depends on the characteristics of the project in question.

2.2 Contracting With Government

10. Determining on the nature of the particular service, local government accountability means that there are special issues concerning termination for default, step-in powers and reinstatement obligations. This may dictate the project structure. For example, a requirement for the land on which the infrastructure is sited to remain in public ownership and be leased to the private party on terms that allow local government to resume both the lease and the asset on termination of the project contract. Figure 1 provides a snapshot of contractual risk and its impact on various parties and project costs for various types of contracted payment schedules. Regardless of the project structure or the terms of the contract, government cannot transfer to the private party the ultimate responsibility and accountability to the public for the delivery of services that it is legally obliged to delivery or which it has undertaken to provide to the public.

Figure 1: Risk in Various Contracts



11. Government can manage the responsibility in a number of ways. It can provide services directly to the public, contracting only for the provision of intermediate services (e.g. the provision of water treatment services). Alternatively, government can contract with a private party to provide services directly to the public on the government's behalf and monitor the performance of service delivery (e.g. provision of a toll road).

12. The nature of the payment mechanism by which government or other parties pay for these services is critical in allocating the financial service delivery to the private party. The payment mechanism should provide that if service delivery is substandard, governments may seek to impose penalties and other remedies to maintain performance incentives for the private party.

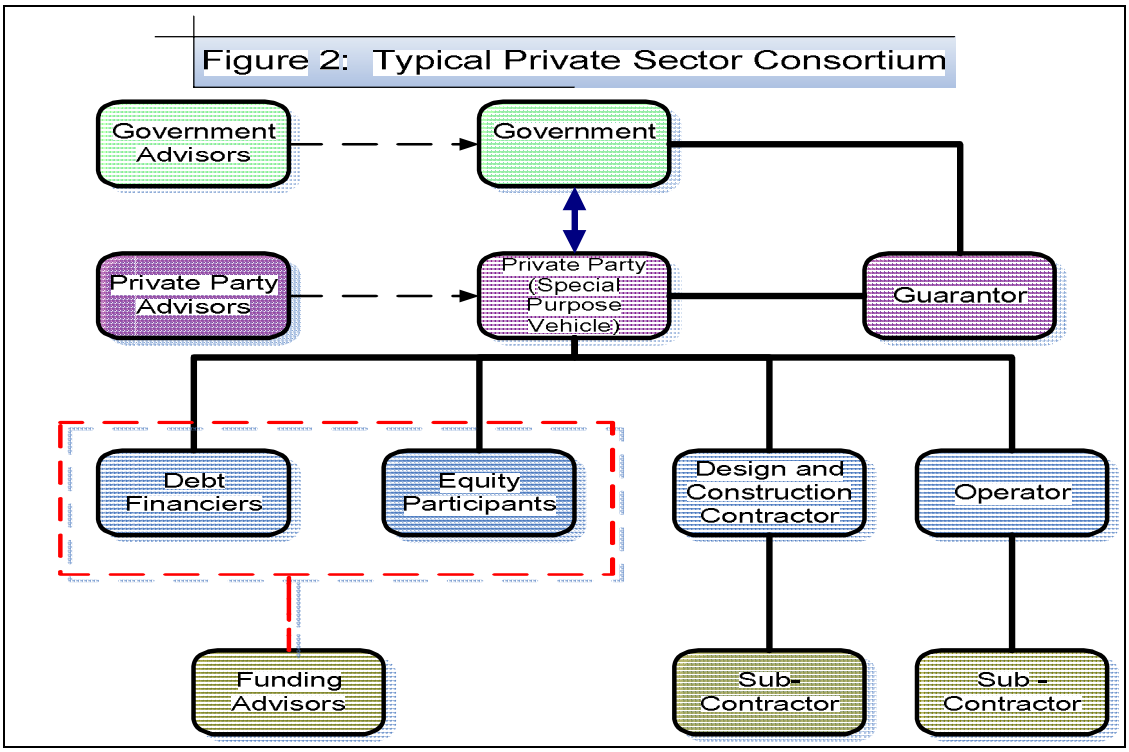
III. Private Sector Perspective

13. When considering risks and negotiating a risk allocation position, it is essential for NCRPB and government to understand the drivers behind the private party's risk preferences. This section attempts to identify such drivers by describing the private party's general approach to risk.

3.1 Who is the Private Party?

14. Throughout this document, the term private party is used to describe the private sector entity with which government contracts. This may be a special purpose vehicle created specifically for the purposes of the project. The private party is not limited to this form. Other structures include: subsidiary of an existing company, a joint venture, or even a concessionaire. Behind the private party there may be a number of private parties (i.e. consortium).

15. In case of a privately financed public private partnership project, a consortium is likely to include debt financiers, equity investors or sponsors, a design and or construction contractor, and the operator. Figure 2 shows the configuration of a typical consortium and its relationship with government and government's advisors.

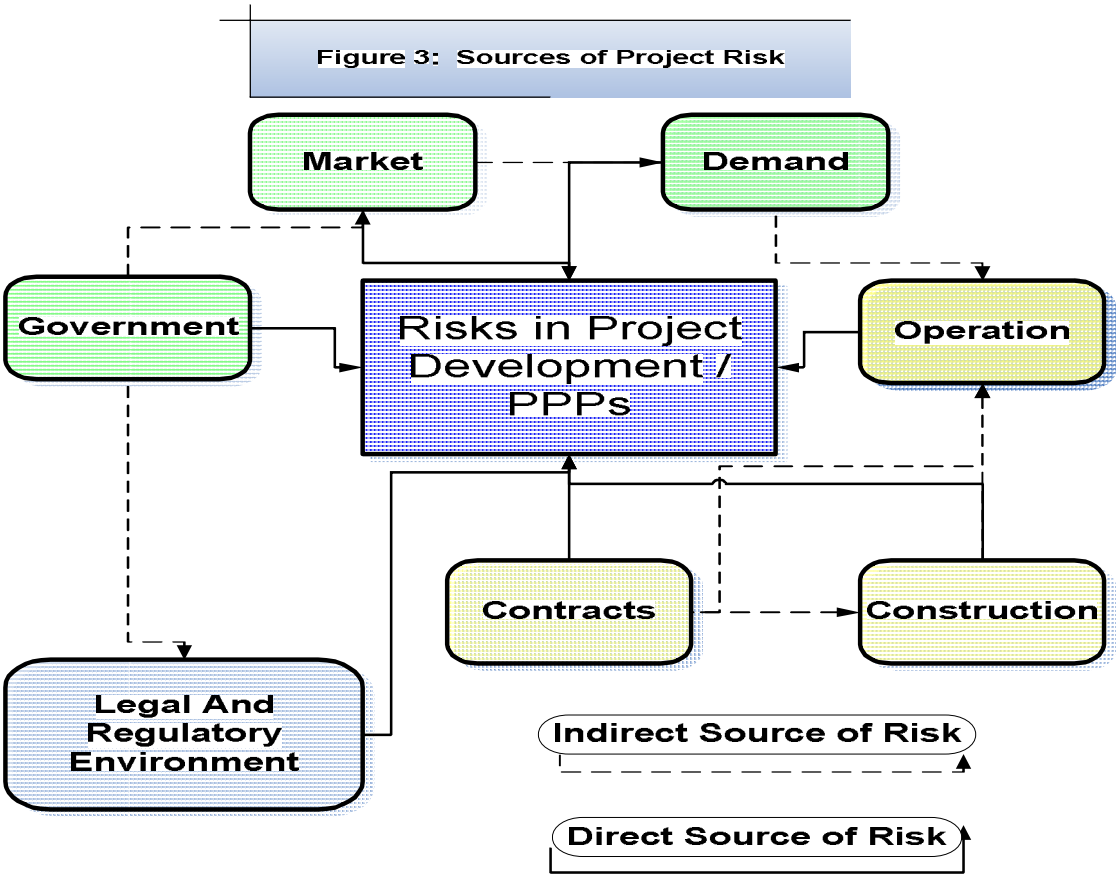


16. While undertaking PPP projects, there is a strong preference that government contract with a single party who is fully accountable for all contract services. From the government's point of view, risk allocation is most effective where there is a whole life contract with a single private party. This ensures the private party the strongest possible incentive to ensure that the design and construction phase converts into a highly

effective operation. However, as illustrated in Figure 1, the private party counterpart is possibly complex with differing interests.

17. Though a Build-Operate-Transfer (BOT) framework makes this arrangement suitable for procurement of PPP projects (See NCRPB Public Private Partnership Manual), the complexity of the arrangement leads to an increased risk exposure for all parties involved. Figure 3 illustrates a potential PPP project with accompany risk at various levels. There are several types of risks: indirect risk (includes market risk etc.,); direct risk is associated with the general project life cycle (construction, start-up, and operations)

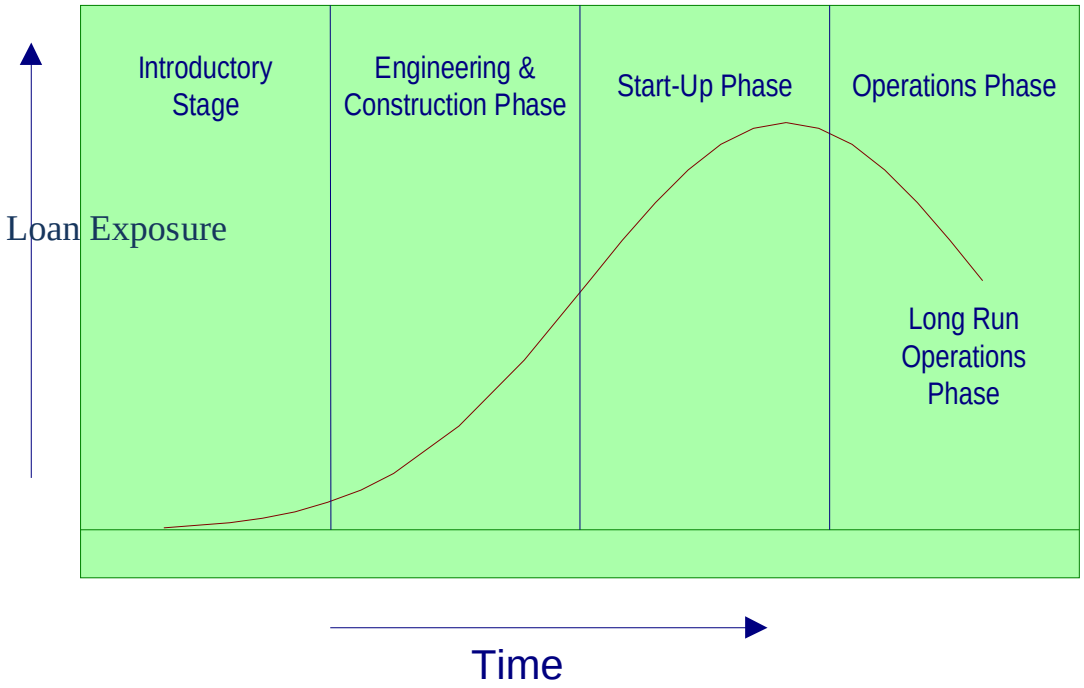
Figure 3: Sources of Project Risk



3.2 Risks at Different Stages of Project Development

18. An infrastructure project typically faces several risks throughout the project period which the project participants seek to mitigate to enable financing on a limited recourse basis (see NCRPB Project Appraisal Manual). The types of risk are different at each stage of the project and thus need to be mitigated appropriated. The three broad stages of risk with different project risk profiles in a general infrastructure project and/or PPP are development phase, construction phase, and operations phase. Figure 4 presents a portrait of project risk phases.

Figure 4: Project Risk Phases



19. In the engineering and construction phase, the project company draws down the majority of loan(s) to finance construction activity, equipment purchase, and other pre-operating costs. Depending on the nature of the project, this phase can last several years. Throughout the project start-up phase equipment is tested, raw material inputs are ordered, project staffing is completed, and marketing starts. Loan exposure may rise slightly during this phase due to working capital requirements and final payments to contractors and equipments suppliers. Initial sales from the project start-up may enable loan payoff to commence. During the operational phase inadequacy of revenue is the most significant risk, especially from the perspective of debt servicing and acceptable return to project investors. Over a period of time, as the project cash flows stabilize and the exposure of the lenders (or investors) is reduced, the risk perception also declines.

20. Specific strategies are adopted at each stage of the project's life, either to reduce the likelihood of adverse risk patterns or to lay risks off to parties best positioned to manage them. In addition to risks specific to each phase of the project, there are other risks like political risks and Force Majeure risks that remain throughout the project period, though the impact may vary based on the relevant project phase.

3.3 Private Party's Approach to Risk

21. Efficient risk allocation and mitigation are central to bringing infrastructure projects to financial closure and to providing appropriate incentives during construction and operation. Sponsors and lenders expected higher rewards for assuming higher risks. In effect, private parties take on risks if they can be appropriately priced, managed and mitigated. Management of risk may involve transferral of risk by a private party to a

third party by way of sub-contractor insurance. For example, although there is a risk that an innovative design for a project may not be suitable for the designated purpose that risk may be partially mitigated by appointing an experience (and/or insured) designer. In this case, the private party then accepts the financial consequences of the risk provided it can earn a commensurate return.

3.4 Impact of Project Financing on Risk Assumptions

22. Project financing is generally divided between debt financiers and equity participants. Debt financiers provide a significant part of the financing for the project at pre-agreed interest rates and accept less risk than equity financiers. Equity participants finance the balance of the project by purchasing shares in the project. These equity shares vary in value according to project profitability. Equity participants receive higher returns than debt financiers as they accept a higher level of risk.

23. Because debt financiers' returns are confined to interest payments, their dominant concern is that the cash flow from the project is sufficient to meet the debt repayment schedule. Debt financiers exert pressure on the private party advocating that they do not take on risks that may jeopardize the project cash flow that is otherwise dedicated to repayment of debt. This is particularly so if the project is funded on a non-recourse basis. Non-recourse financing prevents the debt financier from being able to call on the private party or its parent company (ies) to meet the debt obligations.

3.5 Special Risk Issues When Contracting With Government

24. When contracting to provide public infrastructure and related services, a private party may believe that the usual commercial risks are magnified because it is contracting with government. Government may be seen as having special powers that skew the balance ('imbalance') the commercial relationship between two contracting parties. In effect, government's role in law- and/or regulation-making is perceived as giving it the opportunity to change the rules in the middle of the game. Such risks are termed legislative and government policy risks. Assurance is often required by the private party to reassure that it is not adversely positioned.

IV. Risk Management

25. What is risk management? Risk management is a systematic approach to protect the asset, profit and reputation by reducing possible or severe losses or damages before they occur. Traditional risk management consists of identification, assessment and treatment.

4.1 Risk Management Cycle

26. Risk management seeks to identify, prevent, contain and mitigate risks in the interests of a project. Risk management is ongoing throughout the life of the project and occurs over several stages, including:

i. **Risk Identification** - The process of identifying all risks relevant to the project.

ii. **Risk Assessment –** Determining the likelihood of identified risks materializing and the magnitude of their consequences should they occur.

iii. **Risk Allocation –** Allocating responsibility for dealing with the consequences of each risk to one of the contracted parties, or agreeing to deal with the risk through a specified mechanism which may involve sharing the risk.

iv. **Risk Mitigation –** Attempting to reduce the likelihood of the risk occurring and the degree of its consequences for the risk-taker. And,

v. **Monitoring and Review –** Monitoring and reviewing the identified risks and new risks as the project develops and its environmental changes. This process continues during the life of the contract.

27. The risk cycle can act as a useful framework for determining which risks government (NCRPB) should assume.

4.2 Risk Identification

28. Risks are usually identified by reference to generic risk categories and/or risks based on different phases of the project. Care must be taken when using generic categories, as many overlap and if used in isolation, could be misleading. A change in policy risk, for example, may equally be a network risk or an operational risk.

29. A useful starting point may be to use a checklist of the risks that typically apply to infrastructure and service delivery projects delivered through public private partnerships. The use of generic risk categories or a general checklist should not, however, take the place of detailed consideration of the risks of a particular project by experienced technical personnel such as engineers and planners.

30. A risk workshop should be conducted to identify project risks and attended by experienced technical personnel. The workshop may use the standard categories or phases to give an underlying structure to the risk profile for a particular project. Typical project phases include:

i. Bid phase;
ii. Construction phase;
iii. Operational phase; And,

iv. Transfer of asset.

31. The bid phase is not documented in the contract, but contains various process risks that government must consider. Typical risk categories for infrastructure and service delivery projects (in general) and in public private partnership projects (in particular) include:

i. Site risk;
ii. Design risk;
iii. Construction and commissioning risk;
iv. Sponsor and financial risk;
v. Operating risk;
vi. Market or demand risk;
vii. Legislative and government policy risk;
viii. Force majeure risk; And,
ix. Asset ownership risk.

4.3 Risk Assessment

32. The key factors in assessing a risk are:

i. The **likelihood** (or probability) of its occurrence; And,
ii. The **size** (impact) of its consequences if it does occur.

33. The likelihood of a risk occurring is affected by how risks are allocated. Optimally allocating a risk, to the party best able to control its occurrence and consequences, reduces the likelihood of the risk occurring by giving the party an incentive to prevent its occurrence. That party is also likely to be in the best position to access information about the likelihood of the risk materializing and can therefore establish a realistic premium.

34. Likelihood and consequences are combined to produce a level of risk that may be determined using statistical analysis and calculations. Alternatively, where no past data is available, subjective estimates may be made which reflect the degree of belief that a particular event or outcome will occur. To avoid subjective bias, the best available sources of information and analytical techniques should be used in estimating consequences and likelihood of risk.

35. Appropriate sources of information may include the following:

i. Past records;
ii. Relevant experience;
iii. Industry practice and experience;
iv. Published literature;
v. Economic, engineering or other models; And,
vi. Specialist and expert judgments.

36. Investigative techniques may include:

i. Structured interviews and consultations with experts;
ii. Use of multi-disciplinary groups of experts;
iii. Individual evaluations using questionnaires;
iv. Use of computer and other modeling tools; And,
v. Use of fault trees and event trees.

37. Whenever possible, the confidence placed on estimates of levels of risk should be included. The materiality of the risk should dictate the level of analysis undertaken. A risk that is extremely unlikely to occur is unlikely to be of great concern. Conversely, a risk that is likely to eventuate with significant consequences would be of major concern. When estimating consequences of risk, attention should be paid not only to the potential costs of restoring the project to expectation, to comply with the project agreement, but also to the cost of any mitigation options, including reallocation to an insurer.

4.4 Risk Allocation

38. The procedure for determining risk allocation is as follows:

1) Identify all project risks. These include the general risks and the project-specific risks;
2) Identify the core services that are to be provided by government and for which risk cannot be allocated to the private party;
3) Examine each remaining risk and identify those:
    a. Government is best placed to manage;
    b. The private party that is best placed to manage;
    c. Which cover a situation where neither party has control; And,
    d. Identify the optimal allocation of the risk.
4) Determine whether any of the remaining risks should be shared in accordance with market convention or specific factors relating to the project.
5) Fine tune the risk allocation in the public private partnership structure and use the contract to adjust any imbalance between the parties.

4.4a Risk Allocation for PPP Projects

39. The allocation of risks between government and private parties largely depends on the type of public private partnership structure being implemented. For instance, with a privately financed public private partnership project, risks related to asset ownership would be allocated to the private party, whereas with a project under the design, build and operate model, the same risk would remain with the government. Regardless of which public private partnership structure is being implemented, government must focus on:

- Articulating the policy objectives it wishes to achieve through the partnership;
- Identifying the service it is seeking from the private party and specifying the outputs of that service, rather than the inputs
- Structuring and calibrating the most suitable payment mechanism for the provision of the private party's service/output specifications in accordance with government objectives for the project; And,
- Establishing mechanisms and processes to ensure the government can fulfill its obligations over the concession period.

4.4b Optimal Risk Allocation

40. Optimal risk allocation minimizes both project costs and the risks to the project by allocating particular risks to the party in the best position to control them. That party has the best opportunity to reduce the likelihood of the risk eventuating and to control the consequences of the risk if it materializes. Allocating risk in this manner creates an incentive for the controlling party to use its influence to prevent or mitigate the risk. The

party responsible for mitigating a risk may use its capacity to do so in the overall interests of the project and thereby maximize a value for money outcome for government.

4.4c Risk over Which No Party Has Control

41. There will inevitably be some risks over which either party has little or no control. These risks are likely to be allocated to the private sector if they are considered to be part of the general business environment. Rather than government incurring a high premium from the private sector to assume such risks, a better value for money outcome may be achieved by adopting a shared approach to the risks, such as the material adverse effect regime.

42. Material adverse effect is suited to risks that are difficult to identify in advance, whose consequences are difficult to measure and which are beyond either party's control. A material adverse effect regime anticipates the parameters of the project's capacity to withstand a material adverse effect (i.e., capacity to repay debt) but leaves open to negotiation the manner by which the project can be rectified to continue within those parameters. The regime would only be triggered where the risk materialized and causes significant financial loss. There are a number of methods available to redress the material adverse effect, including:

- Varying the concession period;
- Altering risk allocation in the project documents;
- Varying the right to receive funds; And,
- Requesting lenders to restructure the project financing arrangements.

4.4d Risk Premiums

43. Government can allocate most risks to the private sector provided the cost of their allocation is adequate and the private party is able to diversify its portfolio to manage the consequences of the risks. A relatively efficient market exists in the management of risks, with private parties keen to assume risks in return for a premium. An important question for government to address is whether the risk premium it is paying to transfer the risk represents value for money or whether, in some cases, assuming the risk itself might prove a more cost-efficient option.

44. The theory of optimal risk allocation suggests that it is unwise for a party to allocate a risk that is predominantly within their control to a third party who will be unable to adequately manage the risk. The risk is only accepted by the third party at a costly premium, which in turn diminishes the likelihood of achieving a value for money outcome. Conversely, if a risk can be appropriately managed and mitigated by a third party, it should not attract a costly high-risk premium. This creates an incentive for risk transfer. The development of the public private partnership business case provides insight into risk valuation to ensure government is not charged an excessive risk premium. It is designed to assist in optimizing value for money in risk allocation by determining when a risk would best be assumed by government.

4.4e Unintentional Assumption

45. In order to achieve a value for money outcome, government must ensure that the risk allocation for which it is paying is effective. Government should not pay a premium to the private party to accept design risk where government approvals at critical design stages effectively result in government assuming some of the risk. In addition, it is

imperative that government does not unintentionally take back risks allocated to the private party through sub-optimal management of the project agreements.

4.4f Mitigation and Optimal Risk Allocation

46. It is important to bear risk mitigation options in mind when considering adjustments to the risk allocation in a particular public private partnership structure, as risk mitigation is not separate from risk allocation. The ability to mitigate may lead a party to assume a risk it would not otherwise assume. Awareness of the private party's mitigation opportunities might make it appropriate for government to insist on the risk being allocated to that party and/or for the payment of a smaller premium. Awareness not only of government's own capacity to mitigate, but also of the private party's mitigation options, will assist in determining whether the risk allocation is optimal.

4.4g Symmetrical Risk Allocation

47. Changes during the life of a project may not always have negative impacts, but may result in upside benefits that increase the profitability of the project in unanticipated ways. When determining a risk allocation, thought should be given to symmetrical provisions that create entitlements to such upside benefits, as well as any liability arising from a materialized risk. It may not always prove possible to achieve a symmetrical risk allocation at reasonable cost, as bidders may increase the cost of their bids as a result of the decreased opportunity to enjoy upside benefits. The opportunity to share in upside benefits may not be worth the opportunity cost reflected in the additional bid price. This is a matter for case-by-case identification. However, it is government's likely preferred position that where government agrees to share in the downside of a risk, it should be entitled to share in any associated upside benefits. Care should be taken to ascertain any taxation or balance-sheet implications arising from symmetrical risk allocation.

4.4h Risk Matrix as a Tool

48. A standardized risk matrix framework has been included in this Risk Management Manual and Framework (see Annex 1). The purpose of the risk management matrix is to illustrate the range of risks that may apply to each project phase in a public private partnership project and, to set out NCRPB's (and, the governments') likely preferred position on risk allocation in broad terms. During the preliminary assessment, public private partnership business case development, expression of interest, and bid phases, the risk matrix can assist the government project team in listing all the relevant project risks and their proposed allocations. The risk matrix should encapsulate significant detail on the proposed risk management, mitigation and allocation that will then be developed into contractual mechanisms within the project agreements. The more exhaustive its treatment of the risks, the more useful and valuable is the matrix.

49. Risk matrices are widely used in the project finance and project development market place. However, it is important to recognize the limitations commensurate with the risk matrix framework. For example, if used in a simplified form, risk matrices can misrepresent the actual allocation of risk accomplished by both the structure and detail of the contract. One example of their limitation occurs where the risk matrix contains areas for a particular risk in which both the government and private party are at risk. This says little about the detail of the allocation. The contract and the project structure, not the matrix, are the tools by which risk allocation is achieved.

50. A risk allocation matrix that is presented to the private party as part of the project brief need not be as detailed as the risk matrix that is developed for internal purposes. It should be made clear to the private party that the allocation is offered for acceptance and does not represent an ambit claim. Departures from the matrix that are included with the project brief should be minimized. Any departures should be shown as drafted amendments to the project agreements and provided with the project brief. The risk matrix must always be shown in sufficient detail to allow government to fully understand them and to enable them to be drafted into the contract.

51. The risk allocation position between NCRPB (government) and the private party in a public private partnership project is governed by:

- Service delivery specifications;
- Payment/pricing structure; And,
- Express contractual provisions adjusting risk allocation.

52. These elements, documented in the project agreements, allocate risk between the parties. This allocation includes detail of how risk mitigation strategies may be applied in some circumstances to share or reallocate a materialized risk.

4.5 Risk Mitigation

53. Risk mitigation is any action that can be taken to reduce:

- The likelihood of a risk occurring; and,
- The consequences to the contracting party managing the risk, if it does occur.

54. There are two types of mitigation options:

i. Early options, designed to limit the likelihood of the risk eventuating or to reduce its consequences for the project if it does materialize; And,

ii. Later options, generally involving cooperation between the parties to minimize direct financial impacts of a materialized risk. In many cases this may involve use of a material adverse effect regime.

55. Risk mitigation is an attempt to reduce the relevant party's exposure to the risk. Mitigation practices vary depending on the risks being considered and whether the party concerned is a private or public one. The manner in which a project is scoped can also act as a mitigant. For instance, transferring control of certain raw water storage facilities to the private party in a water treatment project can lessen the interface risk between the private and government parties.

56. Irrespective of whether the particular risk is to be borne by the private party or government, it is in the interests of both parties to ensure that the risk does not eventuate. For example, although design and construction risk is essentially borne by the private party, materialized risk events have the potential to impact on government in the form of delays or interruptions to service, less efficient service or, in an extreme case, catastrophic failure. Therefore, there is a strong incentive for each of the parties to actively manage risks throughout the project. Having said this, NCRPB/government needs to be careful not to become overly involved in the management of risks, such that it ends up assuming risks that it thought it had allocated to the private party.

4.6 Public Sector Risk Mitigation Strategies

57. Public Sector risk mitigation/management strategies include:

- Research before issuing tenders;
- Best practice tender and evaluation processes;
- Reducing scope for agencies to assume risk unintentionally;
- Developing a contingency plan in case of default;
- Structuring payments with milestones so that there is minimal financial loss with default or poor performance;
- Insurance as appropriate;
- Best practice control monitoring; and,
- Recognizing that value for money does not necessarily mean “lowest cost”.

4.6a Research before Issuing Tender

58. This research has a number of components, including:

- **Specifying desired outcomes for the project** - The ‘desired outcomes’ are the actual benefits to be secured through the project. The overarching risk for government is that the private party will not achieve these outcomes. The risk analysis conducted by NCRPB/government must focus, first and foremost, on achieving the desired outcomes.
- **Application of the public interest test** - The public interest test focuses on matters such as the effectiveness of the project in meeting government objectives, honoring the rights of affected individuals, securing public access and equity of access to the infrastructure, preserving community health and safety, protecting consumer rights, and maintaining environmental values. A properly applied public interest test assists government in risk mitigation.
- **Confirming legal ability to contract with the private party -** To avoid later legal complications leading to challenges and delays, it is also vital to check, before tendering, the legal ability of government or the agency to contract with the private party in the envisaged circumstances, and to perform all of their obligations under the contract. In some circumstances, enabling legislation may be required.
- **Public sector benchmarking -** Thorough development of the public private partnership business case clarifies the likely infrastructure and service delivery options, the technologies available for achieving the desired outcomes or outputs and confirms achievement of value for money.
- **Identifying and facilitating required government approvals -** The range of government and agency approvals required and the potential problems in obtaining them should be investigated prior to tender. These may include planning approvals by local councils or state governments.

- **Anticipating and identifying appropriate procedures for resolving land tenure issues -** Potential land tenure issues should also be investigated early. If, for example, the project requires closure of public roads, the grant of easements over state or urban local body land, or the grant of leases beyond the statutory norm, these may involve lengthy procedures that need to be factored into the project timetable and considered for their possible risks and additional costs. Also, where government chooses the site or region for the project or indicates a preferred site, it may begin community liaison under a community consultation plan. This may address development and environmental concerns and assist in minimizing community opposition and its possible flow-on into approvals.

59. This research should to a large extent be undertaken during the preliminary assessment and public private partnership business case development stages of the procurement process.

4.6b Best Practice Tender and Evaluation Procedure

60. Best practice tender and evaluation processes should be adopted to ensure selection of the best bidder. Best practice processes include developing clearly defined bid criteria, creating a framework to handle probity issues and constructing clear and informative bid documents. It is important that government develops and maintains clear and structured communication with bidders throughout the bid process to ensure that the required risk allocation is fully understood.

61. The bid documents should contain sufficient but not excessive information. Oversupply of information can cloud government's primary messages. Oversupply can also lead bidders to a particular project option and unnecessarily restrict their ability to deliver innovation. At the same time, government must be clear about its requirements and any constraints it imposes. The more information provided (within reasonable boundaries) to enable bidders to assess risk, the better the bidders are able to quantify and price that risk.

62. Government should not, as a matter of course, always accept the lowest bid as representing the best value for money outcome. Appropriate evaluation processes should be adopted to help ensure bids are robust and the bidder is not aggressively valuing risks simply to win the bid, thereby compromising long-term value for money to government.

63. The project agreements should be structured and managed so as to lessen the potential for a government agency to unintentionally assume risks for which it has paid a risk premium to allocate to the private party. This may be achieved by preventing unnecessary involvement by government in the design and construction or in the ancillary service delivery processes. Under a public private partnership structure, the incentive for the private party to get the construction right is that it receives payment only when the infrastructure and related services are provided to the predetermined quality and level. During the Contract Management phase of the project, government needs to ensure that its monitoring of service provision does not itself involve any assumption of operating risk.

4.6c Developing a Contingency Plan for Inadequate Service Delivery

64. If a major risk that is allocated to the private party eventuates and the private party cannot effectively deal with it, it will be vital for government to be able to ensure

continuity of service. One example might occur where, in a privately financed public private partnership, the special purpose vehicle becomes insolvent. A contingency plan should be prepared, ready for implementation if the project becomes unviable. This plan is to be consistent with the contract provisions for default, step-in and termination. The plan should extend beyond the contract provisions to consider government options after step-in or termination, and strategies for dealing with major force majeure events that the private party is unable to redress. The contingency plan needs to consider potential pressures on government to continue to provide core services and any ancillary services. The contingency plan should also include a strategy for communicating events and progress to the public.

65. If service is disrupted, the cause, extent and likely duration of that disruption will determine the steps to be taken. For example, if the private party fails to deliver a contracted service, but the particular contracted service and any affected core service (as appropriate) can be delivered effectively at another site or by another party, the private party should pay any additional cost to government of the alternative arrangements. If the service is disrupted and the private party cannot restore the service within the applicable cure periods, government may require step-in rights to restore the service. The need for government to exercise its step-in rights may depend on whether the private party's financiers have prior step-in rights that they wish to exercise in order to minimize the abatement period.

4.6d Private Sector Risk Mitigation

66. The following section outlines private sector risk mitigation strategies, including:

67. **Pass-through to third parties -** The most commonly used and readily available risk mitigation option for private parties is to pass the risk on to other parties who are able to control it at a lower risk premium. This supplementary risk allocation creates a chain of risk bearers, each best placed to control the particular risk, and each insulated from the collective risks the private party would otherwise have to bear. In this situation, however, it is important to point out that, notwithstanding the chain of risk bearers, the private party (as the contracting party) still retains the primary liability for the risk under the contract. Typically, the private party would contract with:

- A builder who would bear the construction/completion risks;
- A facility operator who would bear the operating risks; and,
- A supplier of input materials who would bear the risk that the quality of the materials is adequate to meet the project needs.

68. Other risks, including demand or market risk, might be shared with the private party's financiers. Risk is further reduced if the private party chooses the best and most experienced partners for each aspect of project delivery.

69. **Insurance** is a specialized form of passing through risk to a third party. The private party has recourse to a wide range of insurance products that cover project risks such as owner's liability, some force majeure events, owner's risks (to the asset) and business interruption. Insurance may also be available for some legislative and government policy risks relating to the convertibility of local currency, and other, limited, change of law events.

70. **Financial market instruments** mitigate risks arising from inflation, interest rates and foreign exchange rates can often be mitigated through financial market instruments.

71. **Diversifying project portfolios** - The private party can also create a buffer against the effects of risks by developing diversified project portfolios. Barring a general

economic downturn, the premiums accumulated from non-eventuating risks on one project may sustain the private party through liabilities accumulated when a risk eventuates on another. This could be seen as a form of self-insurance.

4.7 Monitoring and Review

72. Once risks have been allocated and a contract signed, the procurement team needs to establish a risk monitoring system to ensure that:

- Services are delivered according to contracted performance specifications; Commissioning issues are minimized and rectified;
- Payment for services is appropriately verified; And,
- Unforeseen risks are identified and assessed expeditiously.

73. Implementing a monitoring and review process involves two steps to manage both contracted and unforeseen risks effectively, including:

- Development of a risk management plan; And,
- Review and implementation.

74. Risk monitoring and review are enhanced if the members of the contract management team are involved in the competitive bid process. This gives them an understanding of the philosophy behind the risk allocation, as well as familiarity with the individual risks. The contract management team should become involved in the competitive bid process as early as possible.

75. **Risk management plan -** The risk management plan sets out the measures to reduce and control risks and summarizes the results of the risk management process to date. The plan should be updated at regular risk review meetings to record risks avoided, risks realized and the revised strategy for risk management moving forward. The plan also aids future project teams by providing a record of successful or unsuccessful risk handling. At a minimum, a risk management plan should detail: The identified risks; Action and detailed strategy to prevent or mitigate risks; Risk mitigation costs; Key or critical dates; and, Responsibility for the risk management strategy for particular risks.

76. **Risk review and implementation -** The risk management process established in the risk management plan should be reviewed regularly to ensure that: Each risk is controlled, unless it is no longer a risk (e.g. a construction risk after construction is complete); The risk management process adopted for each risk is effective; Resources are made available to deal with risks at the appropriate times; And, Any new potential risks are identified and appropriate measures taken to mitigate them.

77. The frequency of and responsibility for monitoring should be specified in the risk management plan. The scope and frequency of risk review meetings will vary depending on the size, stage and complexity of the project. The review process should not only be seen as a means of reviewing past performance, but also as an opportunity to incorporate consideration of changed circumstances that may affect the project in the future, and to develop strategies to improve risk management, in line with changing circumstances.

78. Where a new risk is identified, a risk management strategy should be drafted, including actions to mitigate the consequences of the risk. The risk and the management strategy should be incorporated into the master risk management plan and be reviewed regularly using the approach adopted for reviewing all project risks.

V. Preferred Risk Position: Site Risk

79. Site risk is the collection of risks related to and arising from the project land. Site risk extends to site suitability, issues that may arise in site acquisition, environmental liabilities arising from site features, requirements related to planning and other approvals. Site risk is a significant issue at the inception of the project and during construction, but becomes less important in the operational phase. However, environmental risk may materialize during the operational phase if previously unidentified problems come to light or the project operation itself gives rise to pollution or to land or ground water contamination. Site risk may be broadly grouped under five headings:

i. Land interests and acquisition;

ii. Statutory approvals;

iii. Environmental issues; And,

iv. Suitability of the site and any existing infrastructure.

5.1 Land interests and Acquisition

80. Government may call for submissions in relation to an identified site that may either be vacant government land or contain existing public infrastructure. Government may also encourage or accept bids involving alternative sites that are owned by others. Such alternatives may carry additional risks especially where the site needs to be acquired from third parties. Alternative sites may, however, allow innovative solutions and promote a value for money outcome. Another issue arising particularly in the case of alternative sites is whether government should own the underlying land asset or purchase services from a private party that owns both the facility and the land on which it is built.

5.1a Government's Proprietary Interest in Project Land

81. Whether the land asset should be in government ownership, depends on the degree of government's anticipated need for the site. This will generally fall within the following categories:

a. **Sites that government clearly wants into the future** (e.g. major roadways) - government should retain ownership of the site and lease it to the private party. Ownership will give government important rights under the lease and may help underpin step-in rights under the contract. Projects under this category are likely to be projects where the asset reverts to government on termination.

b. **Sites from which government may wish to receive or deliver future services** - government may either own the land and lease it to the private party, or allow the private party to own the land (subject to government having first option to purchase the land at the end of the contract term or on early termination according to an agreed valuation method). And,

c. **Sites, in which government has no special interest, and if need be it can walk away -** government may consider allowing the private party to build, own and operate the facility on private land, without being obliged to transfer the site to government either at the start or end of the contract. Determining which scenario will apply depends primarily on government's future intentions

in relation to the land and the facility and, to a lesser extent, on the financing structure that most suits the project circumstances. This is especially relevant in the second category, where government's position is flexible and residual site value (and residual asset value) may be factored into the project financial structure in a variety of ways.

5.1b Acquisition of Sites in Third-Party Ownership

82. If the preferred site is in third-party ownership, or includes sites in third-party ownership, the risks associated with site acquisition generally fall to the private party. However, in certain instances where voluntary acquisition may prove difficult or costly and where government is to become the landowner, it may be more cost-effective for government to control the land acquisition process. In the case of linear infrastructure, government may need or wish to take a role in coordinating acquisitions, even where it does not act as the acquirer of the project land. This is especially the case if the precise route definition depends on the outcome of an environmental assessment process. In such cases, the acquisition process is generally directed by a coordinating committee of government and private party representatives, in order to minimize the risks of incorrect or incomplete acquisitions along the project route, and to ensure that access is achieved in a manner consistent with the private party's construction schedule.

5.2 Statutory Approvals

83. A key risk for major infrastructure facilities occurs with the possibility that development approvals will not be obtained or will be subject to conditions that make the project significantly more expensive to construct and/or operate. Planning schemes are the primary instruments for integrating state, regional and local planning and development assessment.

84. Local governments have the responsibility for making planning schemes and other local planning instruments for their respective communities. The state has certain reserve powers in relation to local planning instruments, and may make policies and establish assessment criteria, including state planning policies and codes. In addition, the state may designate land for community infrastructure.

85. The public continue to have the right to participate in the approval process. These public rights are integral to the public interest aspect of public private partnership policy. It is likely that development approval will be required for any public private partnership project. The task of securing such approval should rest with the private party, since it will generally be responsible for the design, construction and operation of the project and is in the best position to negotiate, or consent to, the project detail.

5.3 Environmental Issues

86. Environmental issues arise where there is site contamination, where the contracted services or method of service delivery has the potential to pollute, and where the project infrastructure may impact adversely on the environment. Changes in environmental regulation may also create significant additional costs by introducing monitoring or management regimes that were not anticipated when the contract was entered into.

87. Clearly, government should not indemnify the private party against contamination risk for any site that the private party brings to the project. Identified contamination should also be excluded from any indemnity with respect to a government-owned or designated site, as it should have been priced into the bid. Furthermore, depending on

the nature of the project, it may not be necessary for the site to be pristine. In that instance, a broad indemnity may generate wasteful, unnecessary clean-up. It may therefore be appropriate for government to provide a limited indemnity, or subject environmental liabilities to a material adverse effect clause that deals with them only if and when a risk eventuates.

88. By limiting the scope of such indemnities, and creatively applying a material adverse effect regime to contamination risk, such risk may be shared and incur a lesser premium. Capping government's liability under the indemnities may also assist in ensuring that the private party efficiently complies with its contractual obligation (if any) to clean up a project site.

a. **Environmental Audits -** In some instances it may be desirable for government to commission an environmental audit on behalf of all proponents' to minimize the proponents' bidding costs. If an environmental audit has been undertaken and is included in the project brief or provided in the data room established for the project, the private party should agree, as one of the terms of the project agreements, that it will not take any action against government in relation to the matters contained in the audit. This will occur whether or not the audit proves to be defective or invalid. Such undertakings are desirable to protect government from liability for the quality of audits over which it has no control. They should be seen as a trade-off for the opportunity an independent audit gives the private party to price contamination risk more accurately, without incurring the costs of the audit. If necessary, it may be agreed that the private party will inherit government's rights to sue the investigator if the audit has been undertaken negligently.

b. A**pprovals and Licenses -** Where a project involves an environmentally relevant activity, environmental approvals and licenses will be required. New environmentally relevant activities will require development approval from the relevant local government. It is important that these approvals are obtained by the private party, and that government stands back from the approvals process. Environmental approvals and licenses are the means by which the facility technology and operational specifications are reviewed externally and checked for conformity with state environment protection policies. To encourage best environmental design and practice, and to insulate government from legal liability for project operation over which it has no direct control, the private party must bear this risk.

c. **Environmental Impact Assessment -** These assessments comprise long and involved processes that may cause significant delay in project start-up and impose conditions that may critically alter the project specifications, (including the project route, in the case of linear infrastructure). The risks associated with these approvals are borne by the private party, subject to the qualifications below. While government cannot intervene in environmental assessment processes once they are under way, it may be in a position to coordinate federal, state and local approvals, and may agree to assume the risk of delays in the approvals process.

89. As an initial premise, site risk lies with the private party. However, it may be appropriate for government to share part of the risk under certain circumstances, such as when: the site is an existing government site with existing environmental liabilities; or, when government retains ownership of the underlying asset.

5.4 Mitigation

90. The obvious way to mitigate site risk is by careful site selection, backed by intensive investigation of the site's history and its characteristics, to assist in quantifying the risk. It is critical that bidders have access to as much information as possible in order to assess the risks. An investigation of past uses of the site, coupled with knowledge of its proposed use, should disclose whether there is a significant danger of land contamination and liability for clean-up. Defects in existing infrastructure that is to be transferred should be identified and quantified. With respect to land contamination, government could commission investigations into site contamination and make these available to shortlisted bidders.

91. Government should take care to ensure that these reports do not provide any warranties or assurances as to the state of the site. In this regard, bidders will still need to make their own independent assessment of the reports. Government-commissioned audit reports do not necessarily lessen the risk premiums required by private parties, unless those parties are able to inherit government's legal rights to sue the investigator if the information proves incorrect. These rights could be innovated under the project agreements or, under a project development agreement, if it precedes the contract.

92. Mitigation of site risk largely depends on the risk management achieved through the preferred allocations set out in this section. Government can seek to minimize the risk of planning refusal through community consultation at the proposal stage and by adopting a generally facilitative approach. Together with the transparency and probity requirements and public interest test undertaken as part of the Public Private Partnership business case development, this approach should lessen the risk of planning refusal. In undertaking community consultation at the earlier stages of a project, however, care should be taken not to create community expectations that a project will proceed.

VI. Preferred Risk Position: Design, Construction, Commissioning Risk

93. Design, construction and commissioning risk is the risk that the design, construction or commissioning of the facility or certain elements of each of these processes, are carried out or not carried out in a way which results in adverse cost and/or service delivery consequences. The consequences if the risk materializes may include delays and/or cost increases in the design; construction and commissioning phases; or, design or construction flaws which may render the infrastructure inadequate for effective service delivery.

94. The private party under a public private partnership project usually incurs substantial up-front design and construction costs to develop project assets. Any unanticipated increase in these costs, whether through delay or otherwise, may have a significant impact on the financial outcomes of the project and/or the delivery of services. In approaching this risk, it is important to remember that public private partnership projects have the potential to differ significantly from traditional design and construct contracts.

95. Under the traditional approach, government appoints design and/or construction companies to design and build the asset on their behalf. Payment is typically made in stages when the works are deemed fit for use or occupation. The contractor has no ongoing responsibility to maintain or service the facility once it has been built. Although there are some similarities between the development obligations imposed on the private party in a public private partnership contract and the builder in a public procurement, there are likely to be critical differences. Under the public private partnership policy, government is not necessarily procuring the asset but focusing on the services delivered through it, implies

a. Government makes no payment during the design and construction period;
b. The scope for government-initiated change to design and construction processes is likely to be limited;
c. Government rights during design, construction and commissioning are likely to focus on reporting and monitoring rather than the broader rights exercised under a design and construct contract;
d. Commercial acceptance is likely to take the place of practical completion (i.e. acceptance by government that service delivery from a technically complete facility can begin and, therefore, so can payment of service charges); And,
e. If there are defects, correction of these during a specified defects liability period are likely to be less relevant to government, as payment will most likely be abated if the service falls short of the specified outputs as a result of the defects.

96. Completion generally occurs when the capital works and service outputs are tested under the full range of operating environments (i.e. commissioning and operational commissioning) and a final certificate of completion is issued. This indicates that the project assets are able to deliver the services to specification. Government accepts that the private party will typically look for objectivity in issuing certificates at commissioning/operational commissioning.

6.1 Allocating Design, Construction and Commissioning Risk

97. Design, construction and commissioning risk is implicitly allocated to the private party by the nature of a public private partnership project. If government imposes detailed obligations on the private party relating to the design, construction and commissioning of a project, the risk allocation to the private party is jeopardized, as is the private party's ability to make decisions about how best to manage these risks. Government will most likely not assume or in any way share design, construction and commissioning risk with the private party, unless it is a risk associated with a government-initiated design or construction change, or a discriminatory act or omission by government which is not in accordance with a government law, regulation or policy that has previously been advised to the private party during the design and construction process.

6.2 Unintentional Design Risk Assumption

98. Government is likely to allocate the cost consequences of delays in design or construction or of any failure to meet the agreed standards to the private party by:

- Buying services at pre-agreed prices and paying for them only on service delivery;
- Limiting the circumstances in which the contract term may be extended; And,
- Having an agreed damages regime for late delivery.

99. However, this starting position may unintentionally shift if government interferes in the detailed design process or requests a change to the agreed service standards leading to additional costs and/or delays in starting service delivery.

100. It can be difficult for government to maintain the balance between communicating its needs by clearly specifying service outputs, and standing back from direct involvement in the design and construction process so that it does not unintentionally assume design and construction risk. Unless government clearly conveys its functional requirements for particular areas, the contract may not succeed in delivering the accommodation services to the level or suitability necessary to ensure efficient delivery of core services from the facility. Government needs to secure a level of confidence in the suitability of the design to meet the outputs specified, so as to avoid making the allocation of design risk to the private party ineffective.

101. The onus of ensuring that the design is capable of delivering the specified outputs must remain with the private party. It is imperative that no action taken by government can be construed as offering assurances as to the efficacy of a design and so discharge the onus on the private party. A more moderate, shared approach may be to allow government to request variations during the development phase, provided they do not affect the commissioning date, and with the cost of variations borne by the private party being capped.

102. Caps on the private party’s liability for the cost of government-initiated variations should be limited to relatively small sums to ensure achievement of a value for money outcome, as the private party will be likely to factor these potential costs into its bid price. It is important to note that government-initiated requests for variation will inevitably lessen the totality of the risk allocation to the private party by interfering with the private party's liberty to determine a commercially-effective design. For this and other reasons

outlined above, government should resist initiating change to design and construction processes.

6.3 Unproven Technology

103. The opportunity for the private party to adopt innovative solutions to service needs is one of the key drivers in achieving value for money through a public private partnership. However, the benefits of innovation carry the risk that unproven technology will not deliver the intended results and will require further refinement. Although innovation risk falls primarily on the private party, government also bears the risk that service provision or full service provision will not be achieved within its required timeframe. In some cases, innovation risk may be priced at a high premium because the project is highly dependent on technology, with a high likelihood that the risk will materialize. Alternatively, the private party may see the contract as an opportunity to trial and demonstrate new technology and discount the risk premium to win that opportunity. In any event, government should ensure any premium paid for the option of unproven technology is not excessive compared to the benefits.

104. Whether it is a concern that government may be locked into a particular technology depends on the nature of the project. For example, it may be more of a concern in an IT-based project than for a building management services contract. In either event, since government inescapably bears some part of the risk, it is appropriate that government is treated equitably in respect of the future need it may have for the technology. Without laying claim to intellectual property in the technology or the upside benefits of its further commercial exploitation, government should seek contractual recognition of its right to future use of the technology on reasonable terms. This is to prevent undue advantage being taken of the fact that government may be locked in to a particular project technology, and to recognize that government has taken a share of the innovation risk and is entitled to some upside benefit.

6.4 Mitigation

105. The private party mitigates the possible consequences of design, construction and commissioning risks by apportioning elements of the risk to its sub-contractors who are familiar with the specialized territory and used to dealing with its risks. Notwithstanding this chain of risk bearers, the private party retains the primary liability for the particular risk under the contract with government. If a risk eventuates, the private party will seek to meet the costs by exercising its rights against the sub-contractors under the sub-contracts, but if for any reason this fails, the private party must meet the costs itself.

106. Although design and construction risk is essentially borne by the private party, materialized risk events impact on government in the form of delays or interruptions to service and/or less efficient service. In these circumstances, it is in the interests of all parties to actively manage risks. However, government needs to be careful not to become overly involved in the management of risks and in doing so, assume risks allocated to the private party.

107. The first necessity in managing design and construction risk is the proper specification of project outputs and of the core services government will be delivering. It also requires linking the contracted services to key performance indicators and, in turn, to the payment mechanism. This puts both parties in the best position to achieve their objectives. Incorrect or ambiguous specifications at this stage obviously increase the

project risks. Government should consult with the successful bidder when detailed service options are being developed and ensure that government is briefed on the proposed design and kept abreast of design evolution. Without involving itself prescriptively, this gives government the opportunity to comment where it considers a design proposal may create difficulties in meeting the service specifications.

108. Commissioning tests should be used to enable government to test the ability of the asset to deliver the required outputs to the specified performance standards under the full range of operating environments. Such tests also ensure design and construction defects are amended before service delivery commences. To mitigate the private party's exposure to commissioning delays that are caused by government inaction, the private party may seek to establish an inspection and commissioning program that is backed by clauses in the project contract. The inspection program may deem the asset to have been commissioned if government fails to complete its testing program within the agreed timeframe. Alternatively, it may be agreed that testing be carried out jointly by government and the private party through an independent commissioning tester. The concern of the private party and its financiers for objectivity in the commissioning process is recognized by government.

109. Finally, government should invest resources in appointing a highly skilled contract manager. The contract manager can monitor the project progress on government's behalf (ensuring also that government meets its obligations during commissioning) and be available to consult with the private party on risk management issues.

VII. Preferred Risk Position: Sponsor and Financial Risk

110. Sponsor risk is the risk:

- Where, in the event that the sponsors are unable to fulfill their contractual obligations to government, government will be unable to enforce those obligations against the sponsors or recover some form of compensation or remedy from the sponsors for any loss sustained; And/or,
- That the sponsors are inappropriate or unsuitable to be involved in the delivery of a project, and so may harm the project or bring it into disrepute.

111. Financial risk refers to the following:

- The risk that the financiers (debt and equity) will not provide or continue to provide funding to the project (risk of financial uncertainty);
- The risk that financial parameters will change prior to the private party fully committing to the project, potentially adversely affecting price (financial parameter risk); And,
- The risk that the financial structure is not sufficiently robust to provide fair returns to debt and equity over the life of the project (risk of robustness of financial structure).

112. When establishing a project consortium under a privately financed public private partnership project, the sponsor(s) generally establishes a special purpose vehicle to contract with government. The special purpose vehicle itself has no historical, financial or operating record government can assess. Government therefore relies on the historical performance of the consortium members to fulfill the project obligations.

113. The special purpose vehicle is supported by external equity contributions often provided by portfolio investors with no relationship to the project beyond their commitment of equity and expectation of financial return. The special purpose vehicle also raises debt or debt/equity finances. The debt providers are concerned with ensuring repayment of the debt plus interest and other returns as agreed. They provide term sheets offering finance subject to conditions precedent that must be fulfilled before the financing can be drawn down. Sponsor and financial risks stem from the complex structure of these arrangements.

114. Upon contract execution, the special purpose vehicle becomes the centre of the project, coordinating and overseeing the work of the sub-contractors, providing the formal liaison with government over contractual issues, and ensuring that the financiers receive their revenue returns. Incompetence or a lack of probity in the special purpose vehicle is therefore a key risk for all parties and one all parties have an interest in managing. Both the project financiers and government will scrutinize the special purpose vehicle.

115. Special purpose vehicles are likely to have little substance, particularly during a bidding phase. This is not necessarily a negative issue, as long as:

- It is relatively clear that equity providers and financiers are in place, understand the project and, given the stage of the project, have demonstrated an acceptable level of commitment; And,

- The sub-contractors nominated by the special purpose vehicle to perform key aspects of the project have the requisite level of skill, expertise and financial capacity to perform their role in the project.

7.1 Mitigating Sponsor Risk

116. Sponsor risk is essentially a risk that falls on government as a result of its contract with the private party. Accordingly, it is imperative that government take numerous and thorough steps to mitigate this risk. The following are traditional mechanisms for mitigating sponsor risk able to be used by government to protect itself against potentially severe consequences of sponsor risk during a public private partnership contract.

7.1a Due Diligence on Bidders

117. When evaluating Expressions of Interests, the government project team should undertake due diligence on the members of each bidding consortium. In particular, each party with an equity interest in the special purpose vehicle will be required to provide a statement declaring that it is not aware of any matter of a probity nature for the purposes outlined below:

- Matters relating to the commercial, financial or legal capacity or status of an equity party or any related parties or associates;
- Litigation, investigation, claim or allegation against or involving an equity party or any related parties or associates;
- Breach or default of or under any law, regulation, agreement order or award biding on the equity party or any related parties or associates; And,
- Any criminal or illegal act, insolvency, bankruptcy or scandalous or immoral behaviour, conduct or activities which may adversely affect its position as a member of the consortium and/or attract negative publicity or attention or generate public or media criticism.

7.1b Parent Guarantees and Performance Bonds

118. If, after financial close, the private party is not expected to be significantly capitalized, government should generally seek security to ensure that the private party is fully committed to delivering the required outputs. The security can either be in the form of:

- Guarantees from the sponsors or from the private party's parent companies where they differ from the sponsors (parent guarantees); or,
- Performance bonds.

119. These are particularly significant in the operational phase when guarantees under the construction sub-contracts are no longer in place. In this instance, the sponsor may seek to walk away from the contract rather than address operational difficulties thereby leaving the special purpose vehicle to be liquidated in circumstances where it lacks the resources to compensate government for the contract breach.

120. The need for sponsor guarantees or performance bonds depends in part on the nature of the project. Where the contract is for accommodation services from which government will deliver core services, there may be less need to secure operational performance. Where project assets will transfer back to government at some value at the

end of the contract term, there may be less need for sponsor guarantees or performance bonds.

121. A requirement for parent guarantees may be an inefficient method of providing security to government. Depending on the nature of the guarantee and the accounting practices of the party providing it, a parent guarantee may have a balance sheet cost which will be passed through to government in the form of a premium (particularly where the guarantee is open ended). An unlimited parent guarantee is also inconsistent with the preference of many project sponsors for infrastructure projects to be of a non-recourse or limited recourse nature.

122. In many circumstances, it may be more efficient to use performance bonds. Performance bonds are transparent from a pricing perspective, and also may be preferred from a project management point of view because they are much easier to enforce than a parent guarantee. Where government does require a parent guarantee or performance bond, it must ensure that it continues to receive value for money. One way of achieving this is to keep the cost of the guarantees/bonds down by ensuring the amount of the guarantees/bonds is at the minimum required to cover necessary costs (such as the cost of installing a new operator).

7.1c Change in Ownership Provisions

123. The financial involvement of a sponsor in the special purpose vehicle may be relatively short-lived. A sponsor's equity capital is likely to require a higher rate of return than an investment in a typically lower-risk public private partnership project will yield. It is thus highly likely that a sponsor will convert at least a part of its equity capital once the higher-risk development phase is completed.

124. A sponsor seeks to avoid any restriction on the parties to whom it may be able to sell its interests in the special purpose vehicle, because such restrictions mean a fall in the value of its asset. It also attempts to preserve flexibility for its equity-holders to transfer their investments and create capital for other projects.

125. Notwithstanding the sponsors' position, government needs to ensure that it retains an appropriate level of control over any changes to the ownership of the private party, in order to mitigate sponsor risk. A change in ownership is of particular concern to government if:

- The transferee (new owner) does not meet probity requirements;
- The transferee is inappropriate or unsuitable in the context of the particular project for public interest or security reasons;
- The transferee is not of strong financial capacity; And/or,
- The transferor (previous owner) has unique qualities and was approved by government because of these qualities.

7.1d Government's Likely Preferred Position

126. As a general rule, government does not seek to obstruct changes in ownership, but nevertheless requires the opportunity to minimize the risk of sponsor unsuitability. The project agreements should therefore include guidance on the types of parties acceptable as transferees (for example, suitable credit ratings and proven expertise). It should also require government consent to any ownership change, and ensure consent is not unreasonably withheld.

127. Changes in passive equity ownership should only be restricted in exceptional circumstances, such as when security or probity issues arise as a result of a change in control of the service provider. Sponsors and equity owners should clearly understand that changes in ownership might be subject to probity and other requirements.

128. Equity transfers may be of particular concern where a party within the consortium has not fulfilled key obligations under its sub-contract, such as where the change affects the construction sub-contractor and construction is incomplete. In this circumstance, the transferor should provide security (such as a letter of credit) to underwrite the outstanding obligations, and the intended transferee should expressly agree to assume those obligations on terms that closely parallel those in the sub-contract.

129. In appropriate cases, it may be a desirable feature of a public private partnership project for parties with a long-term interest in the project, (including major sub-contractors such as the operator), to be required to hold an equity interest in the private party, and therefore an ownership interest in the project. Where this is the case, and it was assessed as an important factor during bid assessment, government consent would be required for any sale or transfer of that equity interest. It is recognized that imposing restrictions on the transfer of equity (in whatever form) comes at a cost. The benefits of imposing restrictions must justify their cost, to ensure value for money is achieved.

7.1e Other Mitigating Options

130. A variety of techniques can be used to mitigate sponsor risk. The techniques may vary from project to project and may include:

- Ongoing tests of probity;
- Ongoing tests of capability;
- Ongoing financial requirements such as providing a topped-up letter of credit or performance bonds to meet claims or to underpin operational performance obligations.

131. In addition, the project agreement will normally provide for step-in rights in the event of the special purpose vehicle or sponsor being unable to fulfill their contractual obligations.

7.2 Risk of Financial Uncertainty – Fully-Funded Bids

132. Providers of debt and equity should be fully committed at the binding bid stage. For debt, this is likely to take the form of a firm credit approval or a term sheet signed by authorized officers with clearly defined conditions that government can assess and evaluate. The financiers are required to acknowledge their offer and the fact that government is relying upon it in considering the bid. A bid supported in this way is considered to be a fully funded bid, although the funding is not strictly cashed up.

133. It is important to ensure that any conditions precedent in a financier's term sheet is limited as much as possible and readily capable of fulfillment to restrict the risk that the expected cash funding will not eventuate. Fully funded bids give government assurance that the proposal submitted by the bidder is financeable. They also limit the scope for the preferred bidder's financiers to delay project commencement by reopening the range of issues for negotiation after the preferred bidder has been selected.

134. Government may also request additional, more direct forms of assurance from the private party (and in turn from the sub-contractors), including guarantees (such as

parent guarantees), indemnities and provisions for contractual damages claims. Where debt and/or equity instruments are to be sold into the capital markets, it is appropriate for a capable and reputable institution to underwrite the funds to be raised. A bond or other financial commitment may be sought as security that financial close does in fact take place.

7.3 Financial Parameter Risk

135. Between the time of making a bid and financial close, many of the financial parameters on which the bid is based may change. The most significant risk is that interest rates may change during that period. The risk of interest rate variation prior to financial close should rest with the private party from such a time as they are reasonably able to mitigate the risk through a hedging instrument. Additional mitigation options may include documenting commitments regarding the specific pricing regime in the project development agreement. This allows commitments that may benefit the project overall to be entered into before financial close, and provides for a sharing of the risks associated with these commitments. The allocation of financial parameter risk depends on the circumstance of each project, but is ultimately driven by value for money considerations, i.e. which party is best positioned to take the risk at least cost.

7.4 Risk of Robustness of Financial Structure

136. The private party may suffer challenges to the robustness of its financial structure, as a result of intense competitive or other pressure. Under these circumstances the private party may be unable to satisfactorily discharge its contractual obligations and as such, government may not achieve the required outcomes from the project. It is important that government undertakes, as far as possible, a reality check of the assumptions used in the bid, so that a significant under-bid is not automatically accepted.

137. One of the danger signals may be where the sponsor is dependent on a refinancing at more favourable rates to make the contract commercially viable in the longer term. While this may be ordinarily possible when the project enters a lower risk phase, if a risk materializes and risk is assessed as remaining at comparatively high levels, the private party may find itself in an untenable commercial situation, prompting a desire to default and walk away. This outcome is not consistent with the philosophy of the public private partnership policy that sees value for government in private sector service delivery and in maintaining a sustainable, productive partnership.

138. The relationship between financiers and the private party puts incentives on the private party to deliver the contracted services. To mitigate their own risk, debt and equity providers typically need to ensure a robust and financially attractive structure with a clear pass-through of contractual obligations to contracted parties capable of complying with them. Debt financiers often take security by assignment of the special purpose vehicle's rights under the project contract, collateral warranties or guarantees from equity holders or sub-contractors.

7.5 Mitigation

139. Government should seek to mitigate sponsor and financial risk by ensuring that only reputable and capable parties are part of shortlisted bidding consortia. Government should also seek to ensure that it does not simply choose the lowest cost bid, but the bid with a financially robust structure and which is likely to earn appropriate returns from the project while achieving value for money.

140. In summary, the steps to mitigate financial risks have a number of common themes:

- Contractual and Financial Commitment Certainty;
- Strength of commitments by the project sponsor(s);
- The capability and reputation of the project sponsor(s), other contracting parties and the providers of debt and equity;
- The robustness of the financial case or model on which the private party has based its participation in the project;
- Government consideration of the consequences of failure to perform by any part of the private party consortium and agreement on appropriate rights. This may include a government right to take over some or all of the contracts the private party may have entered into; And,
- Establishment of a structure which helps ensure, over the course of the project, that the sponsors are of sufficient stature and the key sub-contractors remain able to meet their contractual obligations.

141. Potential proponents should note that government will typically require all bid models to be lodged for perusal. A satisfactory review of the models will be a condition precedent to final approval.

VIII. Preferred Risk Position: Operating Risk

142. Operating risk is the risk that the process for delivering the contracted services will be affected in a way that prevents the private party delivering the contracted services according to the agreed specifications and/or within the projected costs. Operating risks typically relate to production and operation, availability and quality of inputs, quality and efficiency of management (including contract management) and operation, maintenance and upgrade requirements. The consequences of operating risk are that the costs of operating the facility will exceed projections and therefore diminish projected returns, and/or that the facility will not perform to the required standards. Possible sources of operating risk are:

- Higher production costs;
- Higher input costs;
- Reduced input quality;
- Unsuitable design;
- Reduced equipment reliability;
- Higher maintenance costs;
- Occupational health and safety issues;
- Unplanned equipment/plant upgrades; And,
- Technical obsolescence.

143. Performance standards may deteriorate below project specifications or may not be maintained due to:

- Reduced input quality;
- Unsuitable design;
- Reduced equipment reliability; And,
- Force majeure events.

8.1 Importance of Specifying Standards

144. Implicit allocation of operating risk to the private party requires that performance standards are clearly specified in the contract and that an appropriate payment regime (including payment abatement for non-delivery) is established. The private party's liability to meet the agreed performance standards at the agreed price is integral to achieving value for money under the public private partnership policy. Under long term contracts, the service standards should take account not only of government's present service delivery needs, but also future service demands. However, as forecasting future service delivery may be a difficult process, there may also need to be a mechanism by which government may request changes to service standards during the contract term, or for the private party to propose changes.

145. If service standards are ambiguous or inadequate to meet government objectives, government may effectively be locked in to paying for a deficient product over a long contract term, unless it renegotiates with the private party to achieve the necessary changes. Failure to renegotiate will mean that government must bear the

realized risk of sub-optimal performance in relation to its declared objectives. Even where renegotiation occurs and succeeds, additional costs are likely to be incurred. An alternative may be to enter into shorter term operating contracts.

8.2 Continuity of Core Service Delivery

146. A key operational risk for government in delivering core services from private infrastructure facilities is that core services will be compromised by some aspect of the private party's delivery, or non-delivery, of the contracted services. Operating risk is one of the key risks allocated to the private party by the structure of a public private partnership arrangement under which the responsibility for the delivery of the contracted services to specification lies with the private party. This position may need to be adjusted to take account of the impact of various government directives. Furthermore, while government is freed from traditional operating risks in a public private partnership arrangement, operational failure still poses a significant risk, where government may be left without the services for which it has contracted.

147. Government should seek to ensure that the operational risk for the delivery of the contract services remains with the private party and is not inadvertently assumed. However, complete removal of direct government involvement in operational matters may not always be possible. Government may be bound, as a matter of policy, statutory obligation or practical necessity, to ensure that certain operational criteria are met.

8.3 Government Intervention

148. Government intervention during the operational phase differs from the specification of particular modes of service delivery in the output specifications upon which the private party bids. In the latter instance, the risks associated with the required mode of service delivery are assumed by the private party as part of its bid price.

149. Government should take care not to unnecessarily prescribe outputs in its output specifications, except where regulatory or policy requirements dictate otherwise. There are two reasons for this:

a. Since the private party bears the operating risk of such requirements, it should generally retain sufficient flexibility to enable it to manage that risk; and,

b. It reduces the risk of government unintentionally assuming operating/design risk it thought it had successfully allocated to the private party.

150. In the limited circumstances where it is necessary for government to prescribe elements of how the services are to be delivered, the risk implications need to be carefully considered. If government directly intervenes during the operational phase and subsequently cause operating costs to increase, optimal risk allocation principles would require government to share the increased costs where the contract terms prevent the private party from reconfiguring its process for delivering the services, or its business operation generally, so as to maintain its returns. The costs may be shared by adjusting the service charges accordingly or by increasing the term of the contract in a way that allows the private party to achieve its anticipated returns. Where the private party fails to comply with specified service obligations because of a government directive or other government intervention, service charges will not be abated.

8.4 Government Providing Core Services within a Private Facility

151. Where government delivers core services from facilities owned by a private party government bears the operating risk of delivering its core services, except to the extent that the core services delivery is adversely affected by the private party not meeting its service provision obligations. As such, the private party must bear the risk of the adverse affect upon the delivery of the government's core services. Proper allocation of this risk can be achieved though abatement or non-payment of service charges and other forms of financial compensation. If disruption is prolonged or the effect on core services severe, government step-in (and eventually termination) should occur to maintain the continuity of its core services.

152. Costs of operation during step-in should be reimbursed to government. Government also bears the risk that changes to the provision of core services may impact adversely on the private party's ability to deliver the contracted services. In the event that such a risk materializes, government will be prevented from abating the relevant service charge to the extent that the failure to deliver the contracted services to the required standard and level relates directly to the change in the provision of core services. Where government provides the raw materials to be processed by the new infrastructure, government may agree to share the additional costs of production when the quality of its inputs varies from agreed standards.

8.5 Mitigation

153. To avoid ambiguous operational outcomes, service standards should be drafted with clear outputs that can be objectively identified and measured. It helps to engage in a consultative process with each of the shortlisted proponents in the development of detailed contractual specifications. In addition, operation contracts may be written for shorter terms. This enables government to update and adjust service standards to better reflect its requirements.

154. As a corollary, the technology involved in service delivery should be state-of-the–art, with options for upgrading as the contract term proceeds. This enables the private party to adopt new and more cost-effective operating processes while mitigating the extra costs of an upgrade, and will facilitate continued service delivery to the requisite standard (including adjusted standards). In the interests of operational efficiency, and as appropriate, it is important to provide incentives to the private party to incorporate the latest technology at the outset of the project by allocating to it the risk of technological upgrade and obsolescence. This is easier to achieve if, as is generally the case in public private partnership projects, one party has ultimate liability to government for both design and operation. In these circumstances, the private party has a vested interest in ensuring the design allows for the most efficient/cheapest operating outcome.

155. If government shares part of the operational risk because of its potential intervention or of potential impact of changes in its provision of core services on the private party's contracted service, then the nature and extent of the risk should be clearly identified and quantified. There should be consultation with the private party regarding the difficulties that may arise at the interface between government-provided services and those provided by private parties, with agreement to forewarn the other party of any proposed operational change and to consult as to its impact. If the project agreements are breached and the private party is not highly capitalized, the sponsor(s) may seek to walk away, limiting government's ability to obtain redress. To protect government's interest in service continuity, and to compensate it if the sponsor seeks to walk away

from the contract rather than rectify operational deficiencies, operating guarantees or performance bonds may be required from the sponsor or the private party's parent companies (where they differ from the sponsors).

IX. Preferred Risk Position: Market Risk

156. Market risk is the risk that:

- Demand for a service will vary from that initially projected; Or,
- Price for a service will vary from that initially projected so that the total revenue derived from the project over the project term varies from initial expectations.

157. Market risks typically arise where payment for service depends on the level of usage, or where the project is exposed to market forces and their accompanying risks. The main consequence of market risk is that the revenue from users is less than expected. The primary market for the contracted services takes one of three forms:

a. **Public buys services directly (direct market exposure)**. This is a straightforward, user-pays situation where revenues depend on usage. It is extremely market-sensitive and may require government to take measures to lessen the chance that rival government-subsidized services will reduce usage of the contracted services materially below projected levels and in turn jeopardizing the viability of the project. While such measures may encourage demand for the contracted services, they do not guarantee it. Accordingly, in this scenario the private party remains fully exposed to demand risk.

b. **Government buys services on behalf of consumers (intermediate demand)**. This model is market-sensitive to the extent that government pays for the level of public consumption of the contracted services. For example, government may pay (shadow) tolls that reward the private party according to the level of consumption of its services. However, as there is unlikely to be price discipline on end users, demand is unlikely to be constrained and the private party does not bear true market risk. Government needs to carefully consider the extent of value for money provided in such structures.

c. **Government buys services for itself, which it then may provide to the public or use in the provision of core services (government demand).** In this model, demand may well be sourced exclusively within government. Where government is the primary source of demand, there is pressure for it to underwrite demand risk by committing to a minimum quantity of services per annum or to undertake not to create or use similar facilities within the project region. Such measures, if implemented, lessen the private party's exposure to demand risk. Government, in these circumstances, generally shares demand risk. However, setting the minimum below the level of optimal government usage and the level of usage required to achieve the desired project returns may also help maximize value for money by ensuring that the private party retains a continuing incentive to optimize usage. The underlying objective for government in considering to what level of demand to commit and to what level of demand risk the private party is to be exposed, should be to maximize value for money. A rigorous assessment of the value of allocating the demand risk to the private party should be undertaken.

9.1 Issues for Government

158. The payment structure of a public private partnership arrangement should be used to maximize the allocation of demand risk to the private party where this can improve value for money. Where it is not contrary to the public interest to do so, the private party should also be encouraged to generate revenues from the facility independently of the revenues it earns from government through third-party usage of services that are not required by government.

159. Demand risk relates to the variability in demand for a project's services from the forecast levels on which revenue expectations are based. Even in the case of a project with monopolistic characteristics (such as a water treatment facility) where competitive pressures are not a major consideration, demand for the service may still vary owing to volume factors affecting that industry.

160. The project specifications issued by government during the initial project tender stage should outline volumes of required service based on well-developed demand projections. The capital and operating costs of meeting those and other requirements, such as potential third-party demand are factored into the bid and form the basis on which the private party determines whether the project is a viable investment. As indicated above, public private partnership projects should be scoped, where possible, to service additional demand, both from government and from third parties using the facility services in ways that may differ from, but are compatible with, government usage.

9.2 Government's Preferred Position on Demand Risk

161. Government's strong preference is that demand risk be allocated to the private party, even where government itself is the service consumer and is delivering core services from privately-provided and serviced infrastructure. However, the extent to which demand risk is allocated to a private party under a public private partnership project depends on the value for money question.

162. The degree of the private party's exposure to lower returns through lower-than-expected demand depends on the extent to which the project is market-exposed (i.e. whether government has contracted to pay for a specified quantity of the service), or whether the payment mechanism relies wholly on usage. Where government is purchasing the services from the private party and therefore has control over the level of service demand, it is not optimal to structure the payments to include a significant usage component. Nevertheless, wherever possible, there should be a volume component with some volume risk being borne by the private party.

9.3 Demand Risk Mitigation Options

163. Where the private party is required to accept demand risk, it is critical to quantify demand. During the binding bid stage, provision of as much information as possible on levels of demand will help provide certainty for bidders, and is likely to increase the competitiveness of bids. However, bidders should also make their own investigations as to possible levels of demand and should not rely solely on information provided by the government.

a. Where the private party is fully exposed to demand risk, government may agree to implement measures to stimulate use by consumers (such as traffic management measures) or to provide redress to the private party if government acts to increase competition to the project by, for example, subsidizing alternative public services.

b. Where services are received by government only, so that the demand risk to the private party is in government hands, it may give the private party a degree of assurance for government to enter into exclusive concession arrangements granting the private party an exclusive geographic right to provide the contracted services for a specified period within the project term.

164. Potential losses to the private party due to increased competition for the contracted services would need to be justified in light of the gains achieved through reductions in service costs. The measures above should be adopted with caution and undertakings by government should be limited to the minimum necessary to underpin project viability and optimize value for money.

165. Government should also take care not to over-estimate its own demand for services, when paying for services on an availability basis and/or contracting to pay for a specified (minimum) level of usage. Overestimating demand will, in effect, result in government paying to insulate the private party from demand risk and subsequently compromising value for money.

9.4 Government's Preferred Position on Price Risk

166. Price risk is the risk of volatility in the price of the contracted services over the life of the project. As far as practicable, the pricing mechanism should encourage the private party to bear real increases in project costs and allow it to retain any cost savings arising from decreases in project costs. This encourages innovation and should deliver cost savings to government through lower service charges. A key method of allocating price risk to the private party is for government to fix the service charge payable by it for whole of the contract term, subject to indexation adjustments as appropriate.

9.5 Price Risk Mitigation Options

167. There may be instances, where it is desirable for government to fix the service charges for a shorter term, say, five years with subsequent increases to the price after this period on benchmarking or market testing. This will ensure that the service charges under the contract do not become seriously out of kilter with the current state of the market. Alternatively, contracts may be awarded for a significantly shorter term, so that they are effectively put to the market at regular (and comparatively short) intervals.

9.5a Indexation

168. If the service charge is set for the project term, the private party typically seeks to protect itself against the effects of inflation through appropriate adjustments to the service charge. To achieve this, the service charge agreed to by government is usually indexed, either fully or partially, over the project term. If indexation is not incorporated into the pricing mechanism, the private party tends to build contingencies into its initial bid to cover inflation risk. Owing to uncertainties in forecasting future inflation rates, this approach does not generally yield a value for money outcome for government. For this reason, an indexation mechanism is preferred.

169. The indices to be applied should be clearly agreed and specified in the project documents and be capable of objective observation. Allowing competing bidders to propose alternate indices generates difficulties in comparing competing bids. The indices may be nationally-based, based on a specific region or an appropriate industry sector (i.e, a construction index).

170. Government should consider which are the most appropriate indices and the proportion of the service charge that is to be subject to indexation. In practice, different cost components of the service charge may be subject to different indices. The extent of the service charge to be subject to indexation should reflect the underlying cost exposure of the private party, but may be structured to promote real costs savings that can be shared with government.

9.5b Unforeseen Price Variations: Benchmarking

171. For some projects, it may also be appropriate to establish price variation mechanisms to address unforeseen changes in operating costs. Price variation mechanisms may involve formal periodic benchmarking or market testing exercises to test the private party's cost structure. While, in theory, benchmarking and market testing assist in maintaining value for money, they are sometimes difficult to undertake in practice.

172. Benchmarking is the process by which the private party compares its own costs against the market costs of the contracted services. If the costs differ significantly from those charged by the market, a variation to the service charge might be proposed under an agreed benefit/cost-sharing mechanism.

173. Market testing is the periodic re-tendering in the market by the private party to test the value for money of the sub-contracted service. Usually only soft services are subject to market testing. Soft services do not involve a significant outlay of capital, for example, information technology, cleaning and security services. Where market testing of sub-contracted services results in the replacement of a sub-contractor, this should be reflected in a price adjustment.

174. Market testing is likely to be more disruptive to a private party than benchmarking, as it may involve replacing a sub-contractor. Benchmarking or market testing of parts of the services may be particularly valuable when applied to facilities management services. A proper benchmarking and market testing mechanism should:

a. Incorporate a regular timetable for conducting benchmarking or market testing (i.e., three to five years);

b. Ensure the market cost comparison only incorporates the services being benchmarked;

c. Ensure the market services share a similar risk profile to the contracted services;

d. Determine whether it is more appropriate to benchmark services collectively or individually; And,

e. Ensure the reliability of the benchmark material.

X. Preferred Risk Position: Legislative and Government Policy Risk

175. Legislative and government policy risk is the risk that government will exercise its powers and immunities, including but not limited to, the power to legislate and determine policy, in a way that negatively impacts on or disadvantages the project. Given the long-term nature of public private partnership projects, the risk of changes in legislation, changes in government policy, and the election of a new government are often viewed by the private party as critical risk factors when contracting with government. Specific areas of legislative and government policy risk are:

- The risk that government or the contracting department (on behalf of government) will not have the power to enter the contract or its ability to do so will be limited;
- The risk (from the private party's viewpoint) that government will be immune from legal action;
- The risk of no remedy being available at law to prevent government from legislating to affect the rights of the private party (often identified as sovereign risk);
- The risk that the relevant ministry(ies) will grant or refuse to grant statutory consents in a way that disadvantages the project the risk that government will use its power to propose or alter legislation and subordinate instruments, or that parliament will reject, accept or amend such legislation and subordinate instruments in a way that negatively impacts on or disadvantages the project;
- The risk that government will adopt or change policy, including policies with respect to the project, in a way which impacts on the project's mode of operation or alters the relationship between the project and competing public infrastructure; The risk that statutory regulators will exercise their powers to disadvantage the project; And,
- The risk that government will require changes in service specifications or will otherwise interfere with the private party's business operation in a way which negatively impacts on or disadvantages the project. These risks and government's likely preferred position on their allocation are discussed below.

10.1 Ability to Contract

176. It is important to review the powers of the contracting agency, as these may be limited by its governing statute. This was a major cause of delay in United Kingdom hospital projects, where it was unclear whether the National Health Service trusts had the necessary power to contract. Unless the circumstances of the particular project justify another approach, it is preferable that government bears the risk of being unable to execute the project documents due to limitations on its power. Generally, enabling legislation will not be required, but in limited circumstances legislation may be needed to authorize a project. Government’s likely preferred position is to warrant that it has the power to contract in the circumstances of the project.

10.2 Legal Action against Government and Sovereign Risk

177. Entering into a public private partnership project is commercial behaviour by which government places itself on the same legal footing as other commercial parties.

There is a concept of executive necessity that may render certain action by government immune from suit, but this concept has very limited practical application. Any uncertainty concerning the enforceability of the contract can be addressed in the contract. Where the issue arises, government's likely preferred approach is to agree that it will not claim immunity from future legal proceedings as a sovereign body.

10.3 Ministerial Consents

178. Government cannot fetter the exercise of a statutory power. Where a statutory approval is required, and it is considered appropriate for it to do so, government may agree to undertake all reasonable action necessary to help facilitate the provision of required consents.

10.4 Change in Law Risk

179. A project must comply with all current legal, policy and regulatory requirements associated with providing the contracted services (regardless of who bears the compliance cost). A change in law risk is the risk that the agreed legal, policy and regulatory framework will change during the contract term in a way not contemplated when the contract was signed and which disadvantages or has a negative financial impact on the project.

180. A change in law may impact on the form of required modifications to the facility works. This in turn can have flow-on effects on capital expenditure, operating requirements (for example, in requirements to undertake additional performance monitoring) and/or the way a service is required to be delivered. The critical question then becomes who is to bear the cost of such compliance.

10.4a Allocating Change in Law Risk: Issues to Consider

181. A bidder is expected to be aware of publicly announced changes that are formally underway at the time of its tender and to have made allowance for these and all existing requirements in its pricing structure. The risk of changes in the interpretation of laws existing at the date of the contract should generally also be borne by the private party, unless the circumstances of the particular project dictate otherwise.

10.4b Defining Law

182. The term law generally has a very broad application and consists of the following components:

- Strictly legal requirements, emanating from both the common law and statute law, which Parliament has power to change; And,
- Policy requirements, which are not enacted in laws, but may take the form of directives from government departments that directly or indirectly impact on specifications or project viability regulatory requirements set by an independent regulator deriving its powers from statute law.

183. Government has ultimate control over regulators through parliament's power to change the law, but their operation is otherwise self-sufficient.

10.5 Allocating Change in Law Risk: Government's Preferred Position

184. As an initial premise, change in law risk falls to the private party. However, government may decide whether their assumption of this risk will result in better value for money. In determining which approach should be adopted to allocate or share

change in law risk in a particular project, each of the following considerations should be addressed:

- Methods available (if any) for mitigating the consequences of the risk;
- The source of the risk (which in turn is linked to the power to control it); And,
- The nature of the risk and its consequences

10.5a Methods for Mitigating the Consequences of the Risk

185. Under more traditional commercial contracts (between private parties), the service provider usually passes the costs of any change in law directly to its customers through an increase in price, to the extent that competitive forces allow. The difficulty in using this approach in public private partnership projects is that, generally, the services are not provided into a competitive market.

186. However, where the public private partnership arrangement is such that the contracted services are offered directly to the public (so that there is a direct commercial relationship between the private party and end-users), it may be appropriate for the cost of a change in law to be passed through to the public in the form of increased tariffs (within limits). The feasibility of this approach depends on the elasticity of demand, competition from substitute services and whether there are regulatory restrictions on increases in tariffs. If full pass-through can be achieved, the risk is effectively transferred to the public through the private party. If not, it is borne by the private party as discussed above, unless government agrees to share the risk. The position is different where the contracted services are offered directly to and paid for by government. In these circumstances, it may not be appropriate for the private party to bear all the change in law risk, as it cannot be passed on to the third-party end-users. Where, for example, the change involves capital expenditure that cannot be accommodated within the existing costs (or is above an amount specified in the contract), the contract may require the parties to negotiate a solution.

187. Where government receives the contracted services on behalf of its customers, a further approach is for government to take the change in law risk, or part of it, where it can reasonably and legally pass through the cost and impact of that change of law to its customers. For example, in a water treatment project, the water authority may agree to compensate the private party for the net adverse financial effect of a change in law (whether of a capital or operating cost nature) by increasing the toll payable to the private party under the contract. This is limited to the extent that the authority is able to pass on the costs of doing so to its customers by increasing the water tariff paid by them.

10.5b Source of the Risk

188. Change of law may derive from several sources: Federal government; State government; local government and independent regulatory agencies. Government does not assume all change in state law risk simply because the changes relate to government (state/local)-controlled laws. As a general position, government will only assume the risk of changes to state law that are discriminatory - that is, where such changes are directed specifically or exclusively to the particular project. Furthermore, for the reasons discussed above, government generally does not accept the risk of change in federal or local government laws or other regulatory requirements.

10.5c Nature of the Risk and Its Consequences

189. A private party should not be shielded from changes in law that apply generally to the business environment or to which its particular industry sector would ordinarily be subject, merely because it has entered into a contract with government. Accordingly, government's likely preferred position is that costs arising from any change in law that applies universally to the business environment (such as a changes to the income tax legislation), or to the project's particular industry sector, be borne by the private party.

10.5d Upside Benefits

190. There may be upside benefits from changes instituted by the state government or its agencies. These should be credited against any downside risk government agrees to take. This might be done either (or both) in relation to particular changes or by effectively maintaining a ledger, so that any credits arising from government action can be banked against any later adverse changes. Though attractive in theory, it is acknowledged that this may be difficult to implement in practice. Where such sharing mechanisms are used in relation to change in law, detailed contractual provisions is required to enable identification of the consequences of the change.

191. Quantifying the true cost of a change in law is particularly difficult when it indirectly impacts on the project or requires modification of the operating regime. Where symmetrical risk allocation is to be pursued, it is important to consider any taxation or balance-sheet consequences from profit-sharing in risk upsides.

10.6 Mitigation Action to Be Taken By the Government

192. In the case of a change in law risk that government has assumed wholly or partly, the mitigation options open to government include:

- Having a system in place to ensure government is fully aware of the financial consequences of a proposed change for which it will inevitably be liable;
- Where appropriate, devising a regulatory framework which provides a mechanism for tariff adjustments to assist pass-through to end-consumers (subject to public interest considerations);
- Where the change has capital expenditure consequences, placing an obligation on the private party to fund up to an agreed limit, and thereafter to use its best endeavors to raise capital from fresh debt or equity so that a government capital contribution is an option of last resort. Any contribution above the agreed limit should be at government's discretion; And,
- Graduate the costs for which government is liable providing a mechanism for joint review of, and agreement with the private party on, the proposed expenditure to meet the changed requirements.

10.7 Mitigation Action to Be Taken By the Private Party

193. To the extent that a private party has accepted the risk of change in law, the mitigation options available include:

- Attempting to cost the consequences of an adverse change in law into the initial pricing structure through market analysis;
- Scenario modeling and providing for price indexation and benchmarking;
- Agreeing with government during the binding bid stage on an appropriate

regulatory framework to adjust tariffs in the event of a relevant change in law, thereby passing the costs through to the end-consumer;

- Taking reasonable actions to minimize the cost of implementing a foreseeable change in law (e.g. through project design prior to completion); And,
- Discussing with the relevant legislative/regulatory body to alleviate, where appropriate, the effects of the change in law.

XI. Preferred Risk Position: Force Majeure Risk

194. **Force majeure risk** is the risk that a specified event entirely outside the control of either party will occur and will result in a delay or default by the private party in the performance of its contractual obligations. During the course of a project, an event outside the control of either party may occur, preventing the private party from complying with its obligations under the contract. Such an event may be, for example, a cyclone, an earthquake or the outbreak of war.

195. If such an event occurs, government needs to ensure that there are appropriate arrangements in place to deal with its consequences so that the adverse impact on the project and, more specifically, on the delivery of services, can be minimized. Force majeure events traditionally fall into two categories. The first refers to events that can be described as an 'act of God' or a 'superior force'. Such events are generally: storms, lightning, cyclones, earthquakes, natural disasters and actions of the elements, tidal waves, floods and droughts, landslides and mudslides nuclear, chemical or biological contamination. The second category refers to events that can be described as 'political', including: civil riots, rebellion, revolution, terrorism, civil commotion, insurrections and military and usurped power, malicious damage, acts of a public enemy, and war (declared or undeclared).

196. However, the definition of a force majeure event for particular projects varies greatly, and may be either narrower or broader than the traditional meaning. The contract should expressly define events that will constitute force majeure events, to limit any catch-all effect even where the starting point is apparently very broad. The chance of a force majeure risk eventuating is generally more remote than the chance of most other project risks eventuating. However, the consequences of the force majeure risk, if it eventuates, may be more severe and have a greater impact on the project. Its consequences may go beyond merely having a financial effect on the party bearing the risk and strike at the heart of the project, preventing, or at the very least, significantly affecting the provision of the relevant services. Government is concerned primarily about any force majeure event that may adversely impact (directly or indirectly) the provision of services.

197. A force majeure event may impact on the delivery of the contracted services directly or indirectly by impacting on the project asset. For example, the consequences of an act of God force majeure event such as a hurricane, may impact on both the project asset and services. On the other hand, the consequences of a political force majeure event may only impact on service provision because the private party and the public are unable to gain access to the facility, or because access to a network, e.g. electricity, on which the facility or service delivery relies is no longer available. Traditionally, unless the contract expressly provides otherwise, the consequences of a force majeure event lie where they fall. In a public private partnership context, this position would have the following ramifications for the private party and government.

11.1 Effects of a Force Majeure Event on the Private Party

198. Unless the contract provides otherwise, the service charge is abated and the private party is left with little or no revenue to cover its fixed costs if a force majeure event prevents or otherwise adversely affects the provision of the contracted services. If the project asset is damaged and the private party is the owner of that asset, the private party is also left to deal with the consequences of that damage.

11.2 Effects of a Force Majeure Event on Government

199. Government may be faced with the following consequences if a force majeure event occurs:

- Inability to obtain the relevant services from an alternative source. This might be the case because the services simply are not available from another source.
- Increased costs in obtaining the relevant services from an alternative source, which may be greater than the amount by which the service charge is abated as a consequence of the interruption to services. This consequence most obviously occurs during the operating phase of the project. However, it is a consequence that may also arise during the construction phase of the project if damage to the project asset delays its commissioning and government is forced to continue using an existing, more expensive facility during the period of the delay.
- Non-financial consequences, such as adverse public reaction to the service interruption or to government's inability to deliver services that it has a duty to deliver; And,
- If the project asset is damaged and government is the owner of that asset, government is required to deal with the consequences of the damage.

200. In circumstances where it is possible to insure against the force majeure risk at a reasonable cost, optimal risk allocation dictates that the force majeure risk be allocated to the private party. The issue of insurance and the role it plays in the allocation of force majeure risk is dealt with in more detail in the contract development and management supporting document.

201. Where force majeure risks are non-insurable, or insurable only at unreasonable cost, optimal risk allocation principles may dictate that better value for money can be achieved by sharing this risk between government and the private party, rather than allocating it to only one party. There can be varying degrees of sharing of a force majeure risk. As an example, force majeure risk can be shared to the extent that the private party is relieved of the risk of contract termination, but effectively retains the financial risk of the force majeure event.

202. Where a force majeure event affects the private party's obligations to provide the contracted services, those obligations would be suspended (subject to certain time constraints). Government's obligation to pay for those contracted services would also be suspended until delivery of the contracted services is restored (causing the private party to lose some or all of its revenue from the contract). In addition, while the force majeure event continues to exist, the private party should be obligated to use its best endeavors to remove the effect of the force majeure event and restore the provision of the contracted services. If business interruption and/or consequential loss insurances are available, the proceeds of such insurances can be used to mitigate the loss of revenue to the private party and any increased costs to government of alternative service provision the parties agree to negotiate the necessary adjustments (if any) to the charges, volumes and, if applicable, any other provision of the agreement to reflect the effect or impact of the force majeure event. Where the parties are unable to reach a mutual agreement, the matter can be referred to dispute resolution. The risk is shared in accordance with a material adverse effect regime (as described in the contract development and management supporting document).

203. Each of the regimes above contains a different level of risk allocation to the private party. Each regime provides a measure of equity in recognizing that neither party is responsible for, or able to control, the occurrence of the force majeure event. Risk sharing allows the parties to pool their resources in resolving the consequences of the force majeure event and to share the burden in a way that minimizes ill-effects on both parties. The exact nature of the risk-sharing arrangement should take into account the ability of each party to manage the consequences of particular kinds of force majeure events.

204. The government-preferred position, in general terms, is that: as a minimum, the private party must maintain adequate insurance against all insurable events that are considered to be 'usual' in accordance with standard commercial practice where the project asset is destroyed and/or the provision of the contracted services ceases during the contract term, owing to a force majeure event, the private party must reinstate the project facility (where it owns the asset) and/or the provision of the contracted services, unless government agrees otherwise under the circumstances of the particular project. In doing so, the private party must apply all insurance proceeds to effect reinstatement.

11.3 Mitigation

205. Since force majeure risk is by definition beyond the control of either party, the mitigation options available to the parties are almost exclusively concerned with minimizing the consequences of materialized events. One of the few courses of action that can be taken before a force majeure risk materializes is the taking out of insurance, which effectively transfers the risk to the insurer. Depending on the availability of alternative venues for providing the service or alternative services and the commerciality of business interruption insurance, insurance may assist with the immediate problem of the interruption to service resulting from a force majeure event, as well as providing funds for remediation or reinstatement of the facility.

206. To minimize insurance risk (the risk that cover proves incomplete or ineffective, or that a claim is rejected), the contract should provide that:

- Insurance is with insurers approved by government;
- Where possible, government is a co-insured party, not merely that its interests are noted on the policy;
- Insurance is not altered without government approval; And,
- Evidence of insurance renewal is required or any change in currency of the insurance coverage be notified.

207. Insurance policies should also be reviewed regularly to ensure that coverage is adequate and effective. Both government and the private party should have an appropriate contingency plan for dealing with the consequences of a force majeure event, the most important element of which will be a consideration of whether temporary arrangements for providing the service can be put in place and, if so, how this can be done. As services provided under public private partnership projects are ultimately services to the public, government may generally, but not always, be in the best position to locate or make available temporary service arrangements and should preserve for itself the right to do this.

208. From government's perspective, the impact of the force majeure event may be mitigated if government can obtain similar services from an alternative source at the same or similar cost. For example, in the case of a damaged water treatment plant,

water may be able to be treated at an alternative site or by alternative means, or in the event of damage to a prison, government may obtain prison accommodation services by transferring prisoners to another facility (depending, of course, on the state of supply relative to demand and any security issues).

XII. Preferred Risk Position: Asset Ownership Risk

209. Asset ownership risk is the risk that events such as loss, technological change, and construction of competing facilities or premature obsolescence will occur, with the result that the economic value of the asset may vary, either during or at the end of the contract term, from the value upon which the financial structure of the project is based. Asset ownership risk encompasses:

- The risk that the facility design life or technical life will prove shorter than anticipated and/or that the maintenance and upgrade costs of keeping the facility serviceable will exceed expectation;
- The risk that the asset will be damaged or destroyed through a force majeure event;
- The risk (depending on the contract detail) that the private party may lose the asset through default and early termination; And,
- The risk that the facility will not have the value which the project financial structure has ascribed to it.

210. Risks arising from asset ownership can arise both during and upon termination of a service contract. The ensuing discussion considers asset ownership risk in two categories: during the contract term and at the end of the term. Risks during the contract term include: maintenance and refurbishment risks; risk of obsolescence; risk of loss arising from force majeure events; and, risk of loss through contractual default. The risk at the end of contract term is the residual value risk (fit for purpose). The occurrence of the risks during the contract term may have an adverse effect on residual value, unless properly managed.

12.1 Allocating Asset Ownership Risk during the Contract Term

211. Government traditionally assumes most asset ownership risk during public procurement. Where privately-financed public private partnership projects differ is that asset ownership risks are allocated to the private party. By procuring services only, government generally allocates to the private party the whole of life costs of maintaining or upgrading/refurbishing the facility and the risk that the facility will become obsolete for technical, demographic or other reasons. Government is also relieved of the adverse effects on the asset value arising from force majeure events and from the impacts of wider market changes on the residual value of the asset.

212. This risk allocation may need to be modified in individual projects, depending on whether government retains ownership of the site, government's requirements for the particular site and/or the facility, and for its ongoing receipt of services at the end of the contract term. If government decides at the outset that it needs the site and/or facility, it must ensure that the project structure delivers it into government hands at an appropriate point, at an acceptable price and in an acceptable condition. This determination in turn affects the decisions made about government ownership or otherwise of the underlying land asset. If the asset is to revert to, or to be transferred to government at the end of the contract term, government is potentially exposed to residual value risk.

12.2 Maintenance and Refurbishment Obligations

213. The costs of maintenance and any refurbishment needed during the life of the contract are borne by the private party. This is one of the cornerstones of value for money in private provision of public infrastructure. Maintenance schedules and periodic refurbishment should be incorporated into the service criteria governing the payment regime and performance of these obligations should be monitored. This is especially important where government retains ownership of the asset or is to assume the asset at the end of the contract term.

214. One mechanism for undertaking such monitoring, while minimizing intrusion on the private party, is for the parties to agree that government may carry out or procure a survey of the asset, if it reasonably believes that maintenance and performance obligations as set out in the schedules are not being fulfilled. To prevent abuse of this power, the number of surveys that may be conducted over a given period will be strictly limited. An agreed independent party should undertake this asset survey.

215. Because the anticipated costs of maintenance and refurbishment are priced into the service charge, the private party generally builds up a substantial sinking fund over time, in anticipation of significant capital expenditure at future intervals. While government should not require rights over the sinking fund, where the asset is to be transferred to government in the event of early termination, the contract should provide that on early termination, either the balance of the fund is to be paid to government to assist it in discharging the maintenance liabilities it will inherit, or the amount is to be offset against any termination payment required from government.

12.3 Technical Upgrade and Asset Obsolescence

216. Together with the maintenance requirements of the contract, the risk of abated payments for under-performance obliges the private party to bear the costs of any technical upgrading necessary to allow it to continue performing its contractual obligations. However, during the term of the contract, technology can be expected to change and a more cost-efficient solution for the provision of the contracted services may well become available. There is, therefore, a need for the contract to allow some flexibility in upgrading the infrastructure and to provide incentives for such an upgrade.

217. There may also be extreme circumstances where the asset is still capable of delivering to specifications, but technological change has so transformed the market in particular services that terminating the contract is better value for money for government than persisting with it. The termination provisions of the contract should contemplate this eventuality and the nature of any compensation and/or cancellation payments to the private party.

12.4 Asset Ownership Risk Associated with Contract Breach

218. One of the matters of concern to the private sector is the risk of loss of the asset following early termination for contract breach. The extent of this risk varies, depending on whether government owns the project land, whether the private party has the benefit of a government lease (and whether the lease terminates along with the contract), or whether the private party owns the land. If government owns the land, the project infrastructure technically constitutes an 'improvement' which will vest in government upon reversion. Where the asset is to revert or be transferred to government on early termination, government accepts that it should not receive a windfall. Government's position on this issue is that, post-completion, fair market value less government's break costs and compensation and other amounts payable or owing to government (which may

include maintenance sinking fund), is an appropriate basis for calculating an early termination payment.

219. If a default leads to termination during construction and government elects to take control of the facility under construction, a fair compensation payment would be calculated on the basis of compensating the private party for monies expended on completed works. The government's break costs together with any increase in costs to government to complete the facility above the original contract sum (including additional finance and transaction costs) would be deducted from the compensation amount. It is important that there is an objective process for determining the level of compensation (if any) payable to the private party upon early termination. In this regard, the treatment is likely to be different depending on whether its termination results from government or private party default. Irrespective of default, the contract should always give government the option of unilaterally terminating the project agreements, subject to an appropriate compensation formula.

12.5 Asset Ownership at End of Contract Term

220. Either or both the facility and the site from which the services are to be delivered may be of strategic importance to government. In making that assessment, government will have regard to: the nature and location of the site/asset; the desirability of the asset continuing as part of a public network; the potential design and technical life of the asset; the likely alternative sources of service supply; and, taxation considerations. For example, a road provided under a public private partnership arrangement will be required to continue as part of the public road network.

221. If the site is of strategic importance, government will seek to secure the facility or site for itself when the contract term expires, or will require the asset to be transferred to a third party in order to re-tender the services. Where ongoing use of the facility is required at the end of the contract term, government will request that the asset meet various performance standards to ensure that it is in reasonable condition and fit for ongoing use at that point. These requirements implicitly protect the value of the asset. The means by which government may seek to resume the facility or site may take a number of forms, including:

- Granting a lease to the private party for a term co-extensive with the duration of the contract;
- Being granted a right to purchase for an agreed price or a price determined in an agreed manner (for example, fair market value); And,
- Contractually requiring the private party to transfer the site to government at the expiry of the contract term (which may be for nil consideration or an agreed price).

222. The form in which government seeks to ensure the continuing availability of the site/facility will depend on the value for money aspects of the financial structuring sought by government and the private party. There is no preconceived approach. However, typically, with dedicated public infrastructure, the private party places little residual value on the property and seeks to amortize its asset and site costs fully over the contract term through the service charge. In certain projects, where there are other uses for the asset, the private party may be prepared to place a higher residual value on the asset, which may deliver better value for government. Only in those cases where the infrastructure asset delivered under a public private partnership arrangement involves low risk technology is it appropriate for government to consider paying for an asset with a useful

life significantly beyond the contract term. The risk of obsolescence posed by higher technology assets is one that government should not normally take. Where the asset is to be transferred to government at the end of the contract term, government should be protected from inheriting an asset with negative value, (i.e. with significant liabilities attached or significant costs associated with its rehabilitation or removal from the project land).

223. There are circumstances where government may regard its ownership or control of the site or facility as unnecessary for the delivery of the relevant services. Whether or not government ultimately has need of the site, the private party should be encouraged to devise a structure that maximizes value for money for government and promotes acceptance of its bid, without prejudicing the commercial viability of the proposal. One such approach may be for the private party to seek tenure in the site exceeding the contract term, to enable secondary use to be made of the site and/or the facility. Any residual value imputed to the asset flowing from that tenure may be used to offset service charges to government.

224. If the asset is to be transferred to government on termination and government pays, through the service charge, the capital cost of the asset during the contract term or agrees to pay a pre-determined price on termination, government has some exposure to residual value risk. Such risk increases with the additional useful life that the asset is to possess on termination. Generally speaking, the private party is not significantly exposed to residual value risk, since it is unlikely to attribute significant residual value to the asset in its financial projections. However, to the extent that the private party incorporates an expectation of residual value into its financial structuring or retains the asset on contract expiry, it will bear residual value risk.

12.6 Mitigation

225. The risk of loss of asset value during the contract term may be mitigated by the private party having in place appropriate programs for maintenance and refurbishment and comprehensive insurance cover for all loss events for which insurance can be purchased on commercial terms. Additional mitigation measures would typically include financier step-in rights and in extreme cases public sector step-in.

226. Where the asset is transferred back to the government at the end of the contract term, the risks it needs to mitigate are that the asset it inherits has been inadequately designed, maintained or refurbished, so that it does not have the useful life for which government has contracted. The mitigation available to government is through the monitoring processes and enforcement rights given to it under the contract.

227. These include monitoring during the design and construction phases, the right to survey the asset during operation and compel performance of the private party's maintenance and refurbishment obligations, and access to the balance of any maintenance sinking fund upon early termination or upon contract expiry in the event that the asset does not retain the requisite useful life that the asset it inherits has a negative value as a result of significant liabilities attaching to it or significant rehabilitation or removal costs. This risk is best mitigated by imposing appropriate handover obligations on the private party under the contract.

Annex 1: Risk Allocation Matrix

The government's likely preferred positions on individual risks as outlined in this matrix are only an indication or perception. The actual position may vary depending on the circumstances and nature of the particular project.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
Site Risks – The risk that project land will be unavailable or unable to be used at the required time, in the manner or at the cost anticipated, or that the site will generate unanticipated liabilities, with the result that the contracted service delivery and/or project revenues are adversely affected.				
Acquisition of Site	Risk that preferred site is in third party ownership and has to be acquired for the project.	The risk of unanticipated land acquisition costs and delays in acquisition.	Government may use its statutory powers of compulsory acquisition ('right of way').	Private Party
Existing Structure (Refurbishment / Extensions)	Risk that existing structures are inadequate to support new improvements.	Additional construction time and cost.	Private party will pass to builder who relies on expert engineering reports.	Private Party
Site Conditions	The risk that unanticipated adverse ground conditions are discovered which cause construction costs to increase and/or cause construction delays.	Additional construction time and cost.	Private party will pass to builder which relies on expert testing and due diligence. The government may commission initial reports if appropriate.	Private Party
Approvals	The risk that necessary approvals may not be obtained only subject to unanticipated conditions that have adverse cost consequences or cause prolonged delay.	Delay in works commencement or completion and cost increases.	Where the project is unusually complex or the processes obtain the approvals are likely to be lengthy, the government may start the process of obtaining approvals prior to the commencement of the tender process. The work done would then be transferred to the preferred bidder under a project	Private party unless government assumes some or all of risk due to complexity or sensitivity of particular project.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
			development agreement to enable them to obtain the approval.	
	The risk that additional approvals required during the course of the project cannot be obtained.	Further project development or change in business operation may be prevented.	Private party to anticipate requirements.	Private party unless government has initiated the change requiring approval.
Environmental	The risk that the project site is contaminated requiring significant expense to remediate.	Clean up costs and delay.	Reliance on expert reports and insurance.	Private party will generally assume the risk. Because of time and cost implications of full due diligence for each bidder, some risk sharing may be a cost effective solution.
	The risk that a site chosen by the private party (i.e. not the government preferred site) is contaminated requiring significant expense to remediate.	Clean up costs and delay.	Reliance on expert reports and insurance.	Private party assumes all risk as it has selected the site.
	The risk that prior to financial close offsite pollution has been caused from a government preferred site (any site) adjacent to land.	Clean-up liability.	Government to commission reports; government should also have greatest knowledge or past uses of its site.	Government may assume responsibility by way of indemnity or obligation to compensate for unidentified off-site pollution pre-financial close.
	The risk that prior financial close offsite pollution has been caused from a non-government preferred site to adjacent land.	Clean-up liability.	Private party should commission reports and investigations.	Private party will take risk of offsite pollution from any site that is not a government preferred site.
	The risk that after financial close offsite pollution is caused to adjacent land.	Clean-up liability.	Private party can manage site activity.	Private party will be in control of activities on the site post financial closed and will be required to assume risk of offsite pollution caused by those activities.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
Clean-up and Rehabilitation	The risk that the use of the project site over the contract term has resulted in a significant clean-up or rehabilitation obligation to make the site fit for future anticipated used.	Financial liability on residual owner.	Private party able to manage the use of the asset and attend to its maintenance and refurbishment.	Private party to take risk (whether government is to resume or not) and must demonstrate financial capacity or support to deliver the site in the state required by government.
Availability of Site	The risk that tenure/access to a non-preferred site that is not presently owned by government or private party cannot be negotiated.	Delay and cost.	Bidder's obligation to secure access prior to contract signing.	Private party, as it makes the decision to bid on a non-preferred site.
Design, Construction and Commissioning Risk – The risk that design, construction or commissioning of the facility or certain elements of each of these processes, are carried out or not carried out in a way that results in adverse cost and/or service delivery consequences. The consequences if the risk materializes may include delays and/or cost increases in the design, construction, and commissioning phases, or design or construction flaws which may render the infrastructure inadequate for effective service delivery, either immediately or over time.				
Design	The risk that the design of the facility is incapable of delivering services at anticipated cost.	Long term increase in recurring costs – possible long-term inadequacy of service.	228. Private party may pass risk to builder/architects and other subcontractors while maintaining primary liability; And, 229. Government has the right to abate service charge where the risk eventuates and results in a lack of service – it may ultimately result in termination where the problem cannot be suitably remedied.	Private party will be responsible except where an express government mandated change during the design and construction phase has caused design defect.
Construction	The risk that events occur	Delay and cost.	Private party generally will	Private party will be liable unless

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
	during construction that prevent the facility being delivered on time and on cost.		enter into a fixed term, fixed price building contract to pass the risk to a builder with the experience and resources to construct so as to satisfy the private party's obligations under the contract.	the event is one for which relieve as to time or cost or both is specifically granted under the contract, such as force majeure or government intervention during the construction phase. Bank may provide a letter of credit, which can be drawn upon by equity parties if construction is not completed.
Commissioning	The risk that either the physical or the operational commissioning tests which are required to be completed for the provision of services to commence, cannot be successfully completed.	For the private party and its financiers – delayed /lost revenue. For government – delayed service commencement.	No payment by government, until all physical and operational commissioning tests have been successfully completed.	Private party, although government will assume obligation to cooperate and facilitate prompt public sector attendance on commissioning tests.
Technical Obsolescence or Innovation	The risk of the contracted service and its method of delivery not keeping pace, from a technological perspective with competition and/or public requirements.	Private party's revenue may fall below expectations either via loss of demand (user pay models), payment abatement (availability model) and/or operating costs increasing; For government – consequence will be failure to receive contracted service at appropriate quantity/quality including adverse effect on core service delivery in core service model.	Private party may arrange contingency / reserve fund to meet upgrade costs subject to government agreement as to funding the reserve and control of reserve funds upon default; Also monitoring obligations in the contract and work on detailed, researched output specifications (government) and design solution (private party).	Private party except where contingency is anticipated and government agrees to share risk possibly by funding a reserve.
Project Development	Project Development	During the development	1. Employing consultants	Private Party and Government.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
		phase, the critical activities that may be identified include: finalization of the project structure, finalization of the contractual framework viz. the Concession agreement, the Support Agreement, and the Operations and Maintenance Agreement (O&M), Availability of Requisite Approvals, Achievement of Financial Close, and Delay in Project Commissioning.	with correct management skills (both soft and hard) 2. Employing lawyers with the requisite expertise soon after the project is conceptualized.	
Project Completion Risk	Construction Period	The project completion risk or the contractor's risk refers to the possibility of non-completion of the project within the designated period from the Notice to Proceed. Any delays in the construction may be expected to result in increased construction costs.	1. This risk should be mitigated through a provision under the Concession Contract (CC). 2. Contractor to pay liquidated damages for delays during construction. 3. Independent Engineer should review and monitor progress.	Private Party and Government.
Sponsor and Financial Risk – The risk that: 1) Where the sponsors are unable to fulfill their contractual obligations to government, government will be unable to enforce those obligations against the sponsors or recover some form of compensation or remedy from the sponsors for any loss sustained; or, 2) That the sponsors are for security or other probity reasons, inappropriate or unsuitable to be involved in, or connected with, the delivery of projects, and in so being may harm the project or bring it into disrepute.				
Interest Rates Pre-Completion	The risk that prior to completion interest rates may move adversely	Increased project cost.	Interest rate hedging.	With private party from the date that it is reasonably likely that a partnership

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
	thereby undermining bid pricing.			agreement will be entered into such that a hedging instrument can be used.
Sponsor Risk	The risk that the private party is: • Unable to provide the required services or becomes insolvent. • Later found to be an improper person for involvement in the provision of these services; and, • Subject to financial demands which exceed its or sponsors financial capacity causing corporate failure.	Cessation of service to government and possible loss of investment for equity providers.	1. Ensure project is financially remote from external financial liabilities, ensure adequacy of finances under loan facilities, or sponsor commitments supported by performance guarantees. 2. Use of non-financial evaluation criteria and due diligence on private parties (and, their sponsors). 3. Project models to be provided for review in all cases.	Government.
Financing Unavailable	The risk that when debt and/or equity is required by the private party for the project it is not available then and in the amounts and on the conditions anticipated.	No funding to progress or complete construction.	Government requires all bids to have fully documented financial commitments with minimal easily achievable conditionality.	Private Party.
Additional Finance Required due to Requirements of Government	The risk that the government imposes a requirement, by reason of a change in law, policy or other similar event, which is specifically directed at the project and results in additional funding being needed to rebuild, alter,	No funding available to complete further works required by government.	1. Private party must assume best endeavors to fund at agreed rate of return with option on government to pay by way of uplift in the service charge over the balance of the term or by a separate capital expenditure payment. 2. Government to satisfy itself	Government risk as to adverse consequences of a change, if it occurs; Private party risk that its commercial objectives may be inhibited by a restrictive requirement for government consent to change.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
	re-equip etc., the facility which cannot be obtained by the private party.		as to likelihood of this need arising, its likely criticality if it does arise; and as to financial capacity of private party to provide required funds and (if appropriate) budget allocation if government itself is required.	
Refinancing Benefit	The risk (upside) that at completion or other stage in project development the project finances can be restructure to materially reduce the project's finance cost.	A beneficial change in the financing cost structure of the project.	Government to advice bidders during the competitive bid process of the procedures for sharing in refinancing benefit. Formula to be agreed and documented in project agreements. Generally, the project will provide for sharing once the project vehicles internal rate of return reaches an agreed level.	Shared.
Tax Changes	The risk that before or after completion the tax impost on the private party, its assets or on the project, will change.	A negative effect on the private party's financial returns and in extreme cases, it may undermine the financial structure of the project so that it cannot proceed in that form.	1. The financial returns of the private party should be sufficient to withstand such change. 2. The private party should obtain a private tax ruling in relation to specific taxation structures.	Private Party.
Operating Risk – The risk that the process for delivering the contracted services – or an element of that process (including the inputs used within or as part of the process) will be affected in a way that prevents the private party from delivering the contracted services according to the agreed specification and/or within the projected costs.				
Inputs	The risk that required input costs more than anticipated, are of inadequate quality, or are unavailable in required	Cost increase and in some cases adverse effect on quality of service output.	1. Private party may manage through long-term supply contracts where quality/quantity can be assured;	Private Party unless government provides inputs.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
	quantities.		2. Private party can address to some extent in its facility design.	
Changes in Output Specification Outside Agreed Specification Range	The risk that government's out requirements are changed after contract signing whether pre- or post commissioning.	1. A change in output requirements prior to commissioning may necessitate a design change with capital cost consequences depending on the significance of the change and its proximity to completion. 2. A charge after complete may have a capital cost consequence or a change in recurrent costs only; for example where an increase in output requirements can be accommodated within existing facility capacity.	1. Government can mitigate this risk to an extent by minimizing the chance of its specifications changing, and to the extent they must change, ensuring the design is likely to accommodate it at least expense. 2. This will involve considerable time and effort in specifying the outputs up front and planning likely output requirements over the term. 3. Alternatively, shorter term operating contracts may be utilized.	Government.
Operator Failure	The risk that a subcontract operator may fail financially or may fail to provide contracted services to specification.	The failure may result in service unavailability, and inability of government to deliver core services, and, in each case, a need to make alternate arrangements for service delivery with corresponding cost consequences.	1. Government will carry out due diligence on principal subcontractors for probity and financial capacity and commission a legal review of the major subcontracts including the guarantees or other assurances taken by the private party. 2. If failure does occur, the	Private Party is fully and primarily liable for all obligations to government, irrespective of whether it has passed the risk to a subcontractor.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
			private party may replace the operator or government may require operator replacement.	
Market Risk – The Risk that 1) demand for a service will vary from that initially projected; or, 2) price for a service will vary from that initially projected, so that total revenue derived from the project varies from initial expectations.				
General Economic Downturn	In a user pays model, the risk of a reduction in economic activity affecting demand for the contracted service.	Revenue below projections.	Where government is the primary off-taker the private may seek an availability payment element. Otherwise, the private party will ensure robust financial structure and sponsor/financier support.	Private Party.
Competition	In a user pays model, the risk of alternate suppliers of the contracted service competing for customers.	Revenue below projections arising from a need to reduce the price and/or from a reduction in overall demand, because of increased completion.	1. Private party to review likely completion for service and barriers to entry. 2. The private party may seek an availability payment element; and/or 3. Private party may seek compensation for the impact of government subsidized competition.	Private Party.
Demographic Change	The risk of a demographic /socioeconomic change affecting demand for contracted service.	Revenue below projections.	1. Private party to review likely competition for service, barriers to entry. 2. Private party may seek an availability payment.	Private Party.
Inflation	The risk that value of payments received during the term is eroded by inflation.	Diminution in real returns of private party.	1. Private party seeks an appropriate mechanism to maintain real value (e.g. linkage to consumer price index (CPI)). 2. Government concern to ensure its payments do not overcompensate for inflation and to avoid any double	Private party takes risk on the methodology adopted to maintain value.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
			payment for after costs adjustments (e.g., on changes in policy/law).	
Industrial Relations Risk – The risk of any form of industrial action – including strikes, lockouts, work bans, work-to rules, blockades, picketing, go-slow action and stoppages – occurring in a way which directly or indirectly or indirectly, adversely affects commissioning service delivery or the viability of the project.				
Industrial Relations / Civil Commotion	The risk of strikes, industrial action, or civil commotion causing delay and cost to the project.	Cost and time delay.	Private party or its subcontractors manage project delivery and operations.	Private Party.
Legislative and Government Policy Risk – The risk that government will exercise its power and immunities, including but not limited to, the power to legislate and determine policy, in a manner that negatively impacts or disadvantages the project.				
Changes in Law / Policy	The risk of a change in law / policy of the government, which cannot be anticipated at contract signing and which has adverse capital expenditure or operating cost consequences for the private party.	A material increase in the private party's operating costs and / or a requirement to carry out capital works to comply with the change.	1. Government may mitigate its liability for such change by monitoring and limiting (where appropriate) changes which may have these consequences on the project and via mechanisms in the contract allowing consequences only above a pre-agreed 'significant amount'. 2. Government may also require the private party to effect change in such a manner that the financial effect on government is minimized and, if payment is required, that payment is made in a manner that is best suited to government (e.g. payment on a progressive scale basis). 3. In user pays model, put in place a regulatory regime that	Government – Although the parties may share the financial consequences of capital cost increases in an agreed way, for example by the private party meeting a percentage of the cost up to a specific limit and government meeting any excess.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
			allows pass through to end-users.	
	In some cases, the risk of a change in law / policy which could not be anticipated at contract signing and which causes a marked increase in capital costs and / or has substantial operating cost consequences for the private party.	Requirement on the private party to fund and carry out capital works or meet a marked increase in operating costs to comply with the change.	Government mitigates by excluding changes such as tax changes or changes for which the private party is compensated under a CPI adjustment or similar.	Private Party.
Regulation	Where there is a statutory regulator involved there are pricing or other changes imposed on the private party which do not reflect its investment expectations.	Cost or revenue effects.	Private party to assess regulatory system and may take appropriate action.	Private Party.
Force Majeure Risk – The risk that a specified event entirely outside the control of either party will occur and will result in a delay or default by the private party in the performance of contract obligations.				
Force Majeure	The risk that inability to meet contracted service delivery (pre- or post-completion) is caused by reason of force majeure events.	Loss or damage to the asset, service discontinuity for government (may include inability to deliver core service) and loss of revenue or delay in revenue commencement for private party.	1. If insurable, private party must ensure availability of insurance proceeds towards repair of asset and service resumption and government is to be given the benefit of insurance for service disruption. 2. Private party given relief from consequences of service discontinuity. 3. If uninsurable, private party may establish reserve funding; And,	• Private Party takes the risk of loss or damage to the asset and loss of revenue. • Government takes some risk of service discontinuity both as to contracted service and core service subject to insurance availability and will need to arrange alternative service provision – the cost of which will be met from

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
			4. Government to develop a contingency plan for alternate service delivery.	redirected service payments and (if insurable) any shortfall made up from insurance proceeds.
Asset Ownership Risk – The risk that events such as loss events, technological change, construction of competing facilities or premature obsolescence will occur, with the result that the economic value of the asset may vary, either during or at the end of the contract term, from the value upon which the financial structure is based.				
Maintenance and Refurbishment	The risk that design and/ or construction quality is inadequate resulting in higher than anticipated maintenance and refurbishment costs.	Cost increases where private party has assured whole of life obligation and adverse effect on delivery of contracted services and a corresponding adverse effect on government's ability to deliver core services.	Private party to manage through long term subcontracts with suitably qualified and resourced subcontractors and through formal or informal consultation processes with government.	Private Party.
Technical Obsolescence	The risk that design life of the facility proves to be shorter than anticipated accelerating refurbishment expenses.	Cost of upgrade.	Private party may have recourse to designer or their insurers.	Private Party.
Default and Termination	The risk of loss of the facility or other assets upon the premature termination of the lease or other project contracts upon breach by the private party and without adequate payment.	Loss of investment of private party; possible service disruption for government.	1. Private party (and debt financiers) will be given cure rights (time and opportunity) to remedy defaults by the private party which may lead to termination; 2. Serious breaches by the private party to lead to termination; 3. Upon termination, the private party may receive fair market value less all amounts due to government; And,	Private party will take the risk of loss of value on termination. Government assumes risk of disruption to service.

Risk Category	Description	Consequence	Mitigation	Likely Preferred Allocation
			4. Government will require step in rights to ensure access and service continuity until ownership / control issues are resolved.	
Residual Value on Transfer to Government	The risk that on expiry or earlier termination of the services contract, the asset does not have the value originally estimated by government at which the private party agreed to transfer it to government.	Capital costs incurred to upgrade the asset to the agreed value and useful life.	1. Government will impose on the private party maintenance and refurbishment obligations; 2. Ensure acceptable maintenance contractor is responsible for the work; 3. Commission regular surveys and inspections. 4. Government may also direct funs from the project into dedicated controlled sinking fund accounts to accumulate funds sufficient to bring the asset to agreed condition and / or (if required) obtain performance bonds to ensure the liability is covered.	Government.

References

1. Asian Development Bank. 2002. “Handbook of Integrating Risk Analysis in Economic Analysis of Projects” ADB: Manila, Philippines.
2. Dixit, A.K., Pindyck, R.S., 1994. “Investment under Uncertainty” Princeton University Press, New Jersey.
3. Flyvberg, B., COWI, 2004, “Procedures for Dealing with Optimism Bias in Transport Planning” Guidance Document
4. Flyvbjerg, B., Bruzelius, N., Rothengatter, W., 2001. “Megaproject and Risk: An Anatomy of Ambition” Cambridge University Press, Cambridge (UK).
5. Pohl, G., Mihaljek, D., 1991. “Uncertainty and the Discrepancy between Rate of Return Estimates at Project Appraisal and Project Completion”. World Bank Working Paper 761. World Bank: Washington D.C.
6. Pouliquen, L.Y. 1970, Risk analysis in Project Appraisal, World Bank Staff occasional papers No. 11, The Johns Hopkins University Press, Baltimore, Maryland.
7. Reutlinger, S. 1970, Techniques for project appraisal under uncertainty, World Bank Staff Occasional papers No. 10.