



CONTRACT MANAGEMENT

Practice



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Common Abbreviations and Defined Terms

This section explains the common terms and abbreviations used in this Guidance. Defined terms are written using capital letters.

Abbreviation/Term	Full terminology/Definition
Bank	The World Bank comprises two WBG institutions, namely International Bank for Reconstruction and Development (IBRD), and the International Development Association (IDA). The definition applies whether the Bank is acting on its own account or in its capacity as administrator of trust funds provided by other donors.
Bid	An offer, by a firm or joint venture, in response to a Request for Bids to provide the required Goods, Works or Non-consulting Services.
Bidder	A firm or joint venture that submits a Bid. To improve readability, the Defined terms “Bid” and “Bidder” are written in lower case [A1]throughout this Guidance.
Borrower	A Borrower or recipient of Investment Project Financing (IPF) and any other entity involved in the implementation of a project financed by IPF.
Client	The entity named as such in the respective contract for example, selection of Consulting Services based on Bank’s SPDs.
CMP	Contract Management Plan.
Consultant	A variety of private and public entities, joint ventures, or individuals that provide services of an advisory or professional nature. To improve readability, the Defined term “Consultant” is written in lower case throughout this Guidance.
Consulting Services	Covers a range of services that are of an advisory or professional nature and are provided by Consultants. These Services typically involve providing expert or strategic advice for example, management consultants, policy consultants or communications consultants. Advisory and project related Consulting Services include, for example: feasibility studies, project management, engineering services, finance and accounting services, training, and development.

Abbreviation/Term	Full terminology/Definition
Contract	<p>The written legal agreement between the Borrower/Client and the party delivering the Goods, Works, Non-consulting, or Consulting Services</p> <p>To improve readability, the Defined term “Contract” is written in lower case throughout this Guidance, except when used within another Defined term, such as ‘Contract Manager’ and ‘Contract Management Plan.’</p>
Contract Manager	<p>A generic term used to refer to a legal entity, a natural person or team with the appropriate authority and delegations to manage the execution of a Contract. Depending on the applicable contract form, “Contract Manager” may refer to a range of contract management arrangements such as the:</p> <ul style="list-style-type: none"> ■ <u>Engineer in FIDIC</u>: Conditions of Contract for Construction or Conditions of Contract for Plant & Design Build ■ <u>Employer’s Representative in FIDIC</u>: Conditions of Contract for EPC or Turnkey ■ <u>Project Manager</u>, for example, in the Bank’s SPDs for Small Works, or ■ <u>the Employer’s or Purchaser’s or Client’s internal team</u> when assigned to manage a Bank-financed contract.
Contractor	<p>The entity named in the respective Contract to execute a Contract for Goods, Works, or Non-Consulting Services. In some contexts, such as Goods contracts, the term “supplier” is also used in place of “contractor.</p> <p>To improve readability, the Defined term “Contractor” and “Sub-contractor” are written in lower case throughout this Guidance.</p>
CPM	Critical Path Method.
D&B	Design and Build.
DBO	Design, Build, Operate.
Employer	The entity named as such in the respective Contract, for example, in the procurement of Works or Plant based on the Bank’s SPDs.
Environmental and Social Commitment Plan (ESCP)	As described in the Bank’s Environmental and Social Framework.
EPC	Engineering, Procurement and Construction.
ES	Environmental and Social.
FIDIC	Fédération Internationale des Ingénieurs-Conseils-the international federation of consulting engineers.
Fraud and Corruption (F&C)	The sanctionable practices of corruption, fraud, collusion, coercion and obstruction defined in the Anti-Corruption Guidelines and reflected in paragraph 2.2a of Annex IV of the Procurement Regulations.
GCC	General Conditions of Contract.
Goods	A category of Procurement that includes: commodities, raw material, machinery, equipment, vehicles, Plant, and services specifically related to the Goods, such as transportation, insurance, installation, commissioning, training, and initial maintenance.

Abbreviation/Term	Full terminology/Definition
Guidance	This Guidance on Contract Management Practice.
Investment Project Financing (IPF)	The Bank's financing of investment projects that aims to promote poverty reduction and sustainable development. IPF supports projects with defined development objectives, activities, and results, and disburses the proceeds of Bank financing against specific eligible expenditures.
Non-consulting Services	Services which are not Consulting Services. Non-consulting Services are normally bid and contracted on the basis of performance of measurable outputs, and for which performance standards can be clearly identified and consistently applied. Examples include drilling, aerial photography, satellite imagery, mapping, and similar operations.
Plant	The provision of equipped facilities, such as those executed on the basis of design, supply, installation, and commissioning.
Procurement	The function of planning for, and sourcing Goods, Works, Non-consulting Services, or Consulting Services to meet required objectives.
Procurement Documents	A generic term used in the Procurement Regulations to cover all Procurement Documents issued by the Employer/Purchaser/Client. It includes General Procurement Notice, Special Procurement Notice, Expression of Interest, Request for Expression of Interest, Prequalification document, Initial Selection document, Request for Bids and Request for Bids, and any addenda.
Procurement Process	The process that starts with the identification of a need and continues through planning, preparation of specifications/ requirements, budget considerations, selection, contract award, and contract management.
Procurement Regulations	The Bank's Procurement Regulations for IPF Borrowers.
Project Procurement Strategy for Development (PPSD)	A project-level strategy document, prepared by the Borrower, that describes how the Procurement in IPF operations will support the development objectives of the project and deliver VfM.
Proposal	An offer, in response to an RFP, which may or may not include price, by one party to provide Goods, Works, Non-consulting Services or Consulting Services to another party. To improve readability, the term "Proposal" is throughout this Guidance written as "proposal".
Proposer	An individual entity or joint venture that submits a Proposal for Goods, Works, and Non-consulting Services in response to a request for proposals. To improve readability, the Defined term "Proposer" is written in lower case throughout this Guidance,
Purchaser	The entity named as such in the respective contract, for example, procurement of Goods or information systems based on Bank's SPDs.
SEA	Sexual Exploitation and Abuse.
SH	Sexual Harassment.
Standard Procurement Documents (SPDs)	Procurement Documents issued by the Bank to be used by Borrowers for IPF financed projects. These include, General Procurement Notice, Special Procurement Notice, Expression of Interest, Request for Expressions of Interest, Prequalification document, Initial Selection documents, Request for Bids and Request for Bids documents.

Abbreviation/Term	Full terminology/Definition
Subconsultant	<p>An entity to whom or which the Consultant subcontracts part of the Consulting Services while remaining solely liable for the execution of the Contract.</p> <p>To improve readability, the Defined term “Sub-consultant” is written in lower case throughout this Guidance.</p>
Subcontractor	<p>An entity to whom or which the Contractor subcontracts part of the Works while remaining solely liable for the execution of the Contract.</p> <p>To improve readability, the Defined term “Subcontractor” is written in lower case throughout this Guidance.</p>
TOR	Terms of Reference (usually referencing a Consulting Services contract).
VE	Value Engineering.
VfM	Value for Money.
Works	A category of Procurement that refers to construction, repair, rehabilitation, demolition, restoration, maintenance of civil work structures, and related services such as transportation, insurance, installation, commissioning, and training.

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Introduction

Preamble

Effective contract management is essential to the delivery of the agreed outcomes. This Guidance is intended to assist Employers, Purchasers and Clients in managing contracts (post- contract award) under IPF operations.

Project implementation under Investment Project financing (IPF) normally includes procurement activities needed to attain the project development objectives. The Employer/Purchaser/Client should be mindful that the pre-contract award processes (such as suitability of works design and specifications, comprehensiveness of project documents, proper planning, choice of contract, appropriateness and quality of Procurement Documents, evaluation of bids/proposals etc.) all contribute to the success of a contract. The Bank has other guidance in place to support Employers/Purchasers/Clients in the procurement (pre-contract award) processes.

Procurement, including contract management, is a critical component of budget implementation/ execution – as defined within the public financial management cycle. Financial controls should be in place to ensure that funds are available in a timely manner and are used only for the intended purposes. If there are issues in the budget planning and approval process, such issues should be identified well in advance (e.g., during project preparation) and appropriate arrangements put in place. Undue delays in making contractual payments on time means the Employer or Purchaser or Client is at contractual default, potentially also affecting contractors' or suppliers' or consultants' cash flow, resulting in contract implementation delays, claims and other complications.

Purpose

The purpose of this Guidance is to support contract management practice in Bank financed operations by illustrating some of the key aspects and issues. It should be kept in mind that contracts shall be managed in accordance with the contract.

Scope

This Guidance focuses on contract management activities undertaken during contract execution/ implementation. Where applicable, this period includes the defect liability period, defects notification period, as well as a warranty period or operations and maintenance period, if applicable.

Structure of this Guidance

This Guidance starts from the general and relevant aspects of contract management (such as Contract Management Plan (CMP), relationship management etc.). It then presents the contract management aspects of selected categories (such as Works, Goods etc.) to support the Employer/Purchaser/Client (and Bank) teams involved in managing or monitoring one or more of those categories. There is also a section on managing ES risks in site-based activities such as Works contracts. Teams managing one or more of these categories may prefer to refer to the general provisions followed by the category/ies of interest.

This Guidance includes practical short case studies to illustrate relevant contract management aspects, in addition to some templates, such as for CMP, which may be modified to suit the needs of a contract.

There is also a separate excel spreadsheet comprising a [Contract Price Adjustment Computation Workbook](#) (on the Procurement Framework webpage, under “Procurement Tools and Templates”) to support users in applying contractual price adjustments.

Procurement Regulations and Contract Management

The Bank's [Procurement Regulations for IPF Borrowers](#) (Procurement Regulations) advise that Value for Money (VfM) is to be considered at all stages of the Procurement Process, including during contract management. The Procurement Regulations recognize the relevance of early planning at the PPSD stage to identify the optimal contracting strategy, risk mitigation plan and development of preliminary KPIs for monitoring. These important aspects will then be developed further as the Procurement Process advances and more information becomes available.

The Fundamentals

Early Risk Mitigation

Sound contract management practice starts with identifying and mitigating potential risks through early actions by the Employer, Purchaser or Client including the following:

1. proper planning and readiness: such as access and possession of site to enable the contractor to proceed in accordance with the agreed work program
2. anticipate and obtain in a timely manner permits, approvals etc. that are anticipated to be obtained by the Employer
3. robust investigations and survey (geotechnical studies, archeological maps, initial environmental and social assessment, and other studies, as appropriate), to provide information on potential risks and reduce uncertainty of the market - even if some of these risks are eventually to be retained by the Employer or Purchaser or transferred to the contractor for example, unforeseeable physical conditions
4. assessment of environmental and social, supply chain and cybersecurity risks and, depending on the risk levels, include mitigation measures in the design of the procurement strategy and procurement documents
5. realistic scope and quantification, as applicable
6. realistic work program
7. realistic cost estimate
8. optimal contracting strategy with adequate systems and resources for example, qualified and experienced Contract Manager
9. optimal technical and financial qualifications and specifications (whether detailed and/or functional, as appropriate)
10. appropriate tender evaluation criteria framework, including fit for purpose rated criteria
11. setting out preliminary key performance indicators (KPIs) at the planning stage which will be refined and finalized when more information becomes available in subsequent stages.

Role of Contract Manager

Good practice requires that a Contract Manager is appointed for every contract. For small, routine contracts, this may be one person, who has a portfolio of contracts to manage. For large, complex, high-value contracts this is normally an entity (Engineer, Project Manager etc.) usually contracted out by the Employer or Purchaser.

The Contract Manager needs to have the appropriate range of qualifications, skill mix and experience.

Potential Pitfalls

Although there are a range of reasons for failures in contract management, not having the fundamentals in place is often a major factor linked to poor performance. Figure I provides common examples, and Figure II provides a case study as an illustrative example.

FIGURE I Examples of Causes of Poor Contract Management Practice, and Their Consequences

Cause	Consequence
Failure to plan The Employer or Purchaser and contractor fail to adequately plan for the transition to contract implementation.	<ul style="list-style-type: none"> ■ A chaotic start where adequate arrangements are not in place to support implementation.
Poor specifications and qualification requirements The Employer's or Purchaser's requirements are poorly specified, and the contractor's assumptions aren't checked.	<ul style="list-style-type: none"> ■ A contractor with insufficient experience and or resources. ■ The contractor doesn't understand the nature and quality of the Goods, Works or Non-consulting Services required. ■ The contractor's delivery is inconsistent with the Employer's or Purchaser's requirements, and the intended benefits, outputs or outcomes aren't realized. ■ Where the Employer's or Purchaser's expectations are not clearly defined it is difficult to manage the contract.
Inappropriate choice of contract The contract terms and conditions are inappropriate for the type of procurement.	<ul style="list-style-type: none"> ■ The terms and conditions fail to provide a suitable contractual framework, allocation of risk, or appropriate remedies to best resolve issues that arise. ■ The respective obligations and responsibilities of the Employer or Purchaser, or Contract Manager if any, and contractor may be inadequate.
Inadequate resourcing and poor decision making <ul style="list-style-type: none"> ■ Inexperienced contract management team (unfamiliar with the technical specifications, terms of reference and/or conditions of contract, as well as with standard contract monitoring methods, systems and/or tools). 	<ul style="list-style-type: none"> ■ Understandings between the Employer or Purchaser and/or Contract Manager and the contractor differ on how to best deliver, implement and monitor the contract. ■ Progress is slow – even stalled. ■ Contract management is poor, issues aren't resolved and can build up until they become bottlenecks, and the contractor isn't held to account.

FIGURE I Examples of Causes of Poor Contract Management Practice, and Their Consequences
(Continued)

Cause	Consequence
<ul style="list-style-type: none"> ■ The delegations and responsibilities for making decisions aren't clear. 	<ul style="list-style-type: none"> ■ Misunderstandings and disagreements arise. Too many issues are escalated inappropriately. ■ The relationship deteriorates and becomes unworkable. ■ The contractor fails to deliver, and the Employer or Purchaser fails to notice. ■ Decisions aren't made at the right time, if at all. Staff who have no authority make decisions. Decision-making is inconsistent. ■ Where the Employer or Purchaser or Contract Manager fail to adequately perform their part of contract management, the contractor may take control, resulting in unbalanced decisions that are not always in the Employer's or Purchaser's interests.
Lack of readiness for implementation <ul style="list-style-type: none"> ■ Lengthy approval process of contracts. ■ Outstanding land acquisition issues. ■ Delays in making advance payments. 	<ul style="list-style-type: none"> ■ Delays in contract effectiveness and contractor mobilization, negatively impacting the successful implementation of the work program.
Poor contract supervision and monitoring <ul style="list-style-type: none"> ■ The contract's context, complexities and dependencies aren't well understood. ■ The Employer or Purchaser or Contract Manager fails to monitor and measure the contractor's delivery and performance. ■ The Employer or Purchaser or Contract Manager fails to monitor and manage related risks (for example, operational, financial, commercial, political, environmental, social). ■ Failure to enforce the contractual requirements and contractual remedies. 	<ul style="list-style-type: none"> ■ Contractor does not provide or maintain required insurances (including Latent Defect Liability insurance or in civil law countries Decennial Liability insurance when required) and/or Performance Security. ■ The Employer or Purchaser can't assess whether it's getting value for money, or the successful delivery of the intended objectives and outcome/s. ■ Failure to achieve contractor performance in accordance with the contract.
<ul style="list-style-type: none"> ■ Parties focus only on delivery arrangements and do not consider the potential for enhancements and/or innovation. 	<ul style="list-style-type: none"> ■ Opportunities are missed to improve efficiencies, value for money and performance, including value engineering and innovation.

FIGURE II Case Study: Costs of Remedying a Defect**Case Study: Costs of remedying a defect**

Situation: A bidding document for Works was issued with an error in the technical requirements for the materials to be used. It wrongly specified a lower quality material than what was required.

Case study: The following **case study** shows the time and cost it will take to remedy this error, at the various stages of procurement. Generally, the further into contract implementation, the higher the cost and/or the longer the time to rectify.

Procurement Process Status	Remedial Action	Cost Impact	Time Impact
During bidding process	Amend the bidding documents.	Negligible	Negligible Possibly, an extension of time for the submission of bids, if necessary.
During mobilization	Amend the contract. Employer or Purchaser and contractor may easily agree the price of the change.	Moderate The new unit rate for the higher quality of material will be higher than the unit rate offered in the bid.	Moderate Additional time needed to agree the new rate and execute the contract amendment.
During contract execution	Amend the contract. <u>PLUS</u> Remove the material that has already been used or laid. <u>PLUS</u> Replace using the correct material.	High Securing any additional budget for the amendment could be an issue. In terms of cost: 1. Cost of removing the low-quality material. <u>PLUS</u> 2. Potentially higher price for the new or correct material. <u>PLUS</u> 3. Cost of installing or putting in place the new material.	High Time that may be needed to secure additional budget. Additional time for completion to allow for the removal of the low-quality material and laying the new material. Contract time extension may be required.
After expiry of the Defect Liability Period This could have significant implications on budget and the time needed to secure it.	Select a contractor to remove Works affected by the low-quality material and complete the Works as per the correct specifications.	Very high New contract with potentially higher prices, plus the cost of removing all Works previously done, potential loss of use, loss of production etc.).	Very high The time needed to select a new contractor and the time needed to execute the new contract could potentially be lengthy.

Managing Relationships

Successful Relationship Management

As mentioned earlier, managing relationships is one of the essential skills in contract management. It involves understanding the nature of different types of relationships (for example, between the Employer or Purchaser and contractor, or the Employer or Purchaser and end-user or affected community/ies and identifying how much time and resources need to be committed to communicating and handling each relationship. Each contract is different, so careful considerations of the parties or groups involved, the nature of the contract, and its value, scope and complexity need to be taken into account when developing a relationship management strategy, as part of the Contract Management Plan.

In a contract setting certain factors promote successful relationships and others inhibit successful relationships. Figure III lists positive and negative factors that may impact relationship management.

FIGURE III Positive and Negative Factors Affecting Relationship Management

POSITIVE FACTORS for Successful Relationships	NEGATIVE FACTORS that Inhibit Successful Relationships
<ul style="list-style-type: none">■ Securing senior level support for the contract.■ Ensuring that the governance arrangements are robust and fair.■ Open sharing of information.■ Collaborative relationships leading to constructive problem solving.■ Ensuring that relationships between the parties are peer-to-peer as far as possible.■ Ensuring that roles and responsibilities are clearly understood by all parties.■ Ensuring that the necessary authority levels have been delegated.■ Ensuring that escalation routes (for issues and disputes) are clear and understood.■ Issues and disputes are addressed or resolved in a timely and effective manner.■ Timely payment for successful delivery.	<ul style="list-style-type: none">■ Failure to prioritize managing the relationship.■ Discourteous or offensive styles of communicating.■ Blame culture.■ Failure to communicate information that is important to the other party.■ Failure by either party to fulfill its contractual obligations.■ Recourse to remedies in a manner not consistent with the contract.

Plan and Act Early

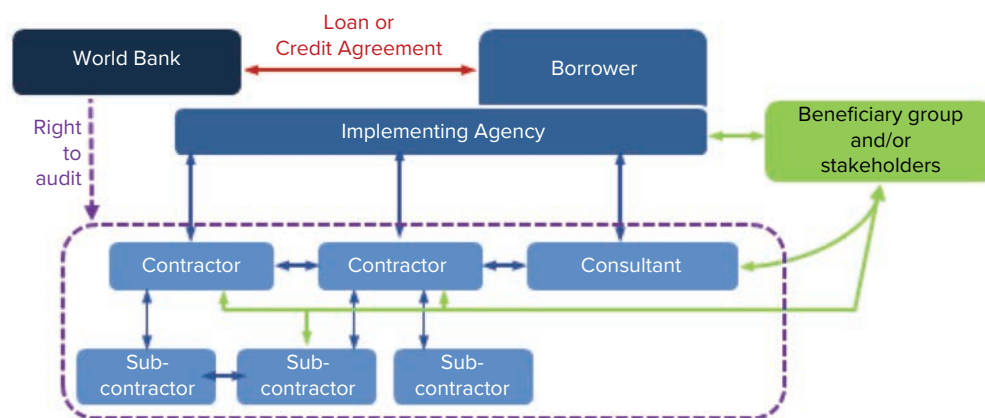
Relationship-building takes time. One should not wait until there is a problem to start engaging. For example, engagement with the contractor or consultant starts at the beginning of the procurement process, through contractor selection, negotiation and contract award. The way that bidders or proposers are treated or their understanding of the Employer's or Purchaser's level of professionalism during these stages can have an impact on the quality of the relationship by the time it gets to contract implementation. The initial period of contract implementation could set the tone for the contractor's performance for the rest of the contract, and therefore the relationship is expected to be proactively firm and fair.

Engagement strategies for relationship management with relevant stakeholders would need to be developed early. These can be included in the Contract Management Plan. The type of strategy and the amount of resources applied to relationship management need to align with the needs of the individual procurement or project and be fit-for-purpose. A good start is to map the parties and their respective relationships.

Relationship Mapping

The typical contract management relationships are between the Purchaser or Employer and contractors, or the Client and consultants. Consultants may in turn serve as Contract Managers thereby having contract management relationships with both the Employer or Purchaser and contractors. In addition, there is often a beneficiary group or stakeholders whose needs are to be considered. For IPF-funded operations, there is also the World Bank. Figure IV provides an example of how these inter-relationships may be mapped.

FIGURE IV Key Relationships Mapping in Bank-Financed Contracts



Bank and Borrower

The legal relationship between the Bank and Borrower is established through the loan or credit agreement. Each party's obligations and responsibilities are clearly described in these documents. The Bank supervises projects financed by it, which normally comprise numerous contracts. In addition,

for contracts subject to prior review, types of contract modifications (as specified in the Procurement Regulations) or contract terminations require the Bank's no objection.

Employer or Purchaser and Contractor

The contract governs the relationship between the Employer or Purchaser and the contractor. Depending on the nature of the contract, the Borrower may wish to develop a close partnership or invest less time and resources in managing this relationship.

Employer or Purchaser and Contract Manager

The relationship between the Employer or Purchaser and the Contract Manager depends on the duties assigned to, or authority vested in, or delegated to the Contract Manager to manage the execution of a contract. This may range from assigning contract management duties to internal staff to employing consultants to serve as "Engineer," "Project Manager," "Employer's Representative" etc.

Contract Manager and Contractor

The relationship between the Contract Manager and contractor is governed by the applicable contractual arrangements. The role of the Contract Manager is defined in the contractor's contract.

Bank and Contractors or Consultants (Contract Manager)

There is no contractual relationship between the Bank and contractors or consultants. The Bank is not a party to these contracts. Specific provisions in the contract between the Employer or Purchaser or Client and the contractor or consultant state that the Bank has inspection and audit rights.

Multiple Contractors

In small scale, less complex contracts, there is often a single contractor involved. However, in large scale, complex projects, with many dependencies and multiple contractors and sub-contractors, the need to coordinate activities and manage these relationships, such as interface management, becomes essential.

A systematic approach is required to streamline communications, foster collaboration and ensure comprehensive and robust reporting systems. This involves identifying critical interactions and monitoring the progress of the work. The interaction of the contractors could be related to:

1. coordinating physical interactions
2. harmonizing functional requirements
3. managing competing contractual obligations
4. ensuring effective, timely information exchanges
5. efficient utilization of resources
6. coordinating implementation schedules.

Not having an effective interface management system could negatively impact the cost and schedule of the contract. Factors to consider when establishing an interface management system include:

1. assign a manager or consultant to be responsible for the interface between contractors and create an interface team
2. each contractor identifies a contact person with sufficient authority to work with the interface manager for each party affected by the interface
3. clearly define the roles and responsibilities of each interface team member
4. ensure regular reports on performance and critical issues are delivered and shared
5. establish fair and practical arrangements for effective resolution of differences or conflicts
6. check that risk is assigned to the party best able to manage it. Emerging risks are communicated, and a common management plan is agreed.

Employer or Purchaser and Beneficiary or Stakeholder Group

This refers to relationships between the Employer or Purchaser and the beneficiary (end user) and/or stakeholder groups (for example, affected communities). Consulting with end users and stakeholder groups in early procurement planning and design stages has significant benefits to the development of specifications and requirements. It is also essential to maintain constructive relationships throughout contract implementation with both beneficiaries and stakeholder groups.

The needs of the beneficiary and/or stakeholder groups should be understood, their requirements and concerns should be communicated to the contractor or consultant, and the potential risks and issues appropriately addressed. This requires a degree of ongoing coordination and channels of communication, so that beneficiaries and stakeholder groups have a voice. The Employer or Purchaser should develop a stakeholder engagement plan to keep beneficiaries and stakeholder groups engaged during contract execution. This is particularly important in large infrastructure contracts which have a significant impact on beneficiaries and stakeholder groups. The Employer's or Purchaser's or Contract Manager's Environmental and Social specialists are needed to actively support these relationships.

Actively involving the community has several benefits including:

1. better control of the contract's implementation and operational risks, leading to improved contract outcomes
2. reduced incidence of fraud and corruption (communities can often act as active watchdogs)
3. better awareness of ES issues (including SEA/SH)
4. opportunity to identify and address grievances in a timely manner
5. increased ownership and sustainability.

Preparing a Contract Management Plan

Why Plan

Planning how, when, where and by whom a contract will be implemented, monitored, managed and administered is an important step to ensure that what is procured will be delivered. A Contract Management Plan (CMP) provides a structured and systematic approach. An example CMP is provided in Annex 3.

When to Plan

The Employer or Purchaser begins development of the CMP as early as possible in the procurement process. Preferably, the plan is expected to be completed when signing the contract. In practice, it may be promptly thereafter.

How to Plan

The CMP should be fit-for-purpose. This means that the level of detail should be proportionate to the scope, value, risk, complexity and duration of the contract. Typically, a CMP will cover some, if not all of the following:

1. contract management roles and responsibilities - ensure that each party has established the necessary authorizations and delegations for its personnel at the beginning of the contract as this is an important prerequisite to ensuring that all contracting decisions are valid and enforceable
2. list of key contacts for example, the names and contact details of the key contacts for the Employer or Purchaser or Contract Manager and the contractor
3. contract management system
4. governance structure
5. contract documents, including key contractual terms and conditions
6. key milestones, including the critical path
7. Key Performance Indicators (KPIs) and a description of the standards or measurement process, if relevant

8. key contract deliverables are identified and properly described, and updated to account for change orders during the execution of the contract
9. insurance coverage, if required
10. reporting requirements establishing the types of reports, due dates, contents and lines of reporting
11. payment procedures consistent with contractual provisions
12. record keeping requirements and procedures
13. audit or independent assurance requirements
14. change management or contract variation procedures
15. issues management and escalation
16. key contractual remedies
17. risk management plan (see risk register below)
18. stakeholder engagement plan
19. communication plan
20. guarantees and/or securities, if applicable
21. price adjustment formula and circumstances, if applicable
22. interface management (between contractors), if applicable
23. contract closure procedures.

If requested by the Bank, the CMP, including the KPIs, should be submitted for prior review.

The CMP should be shared with the contractor and all relevant parties involved in contract implementation, management, administration and governance. The Employer or Purchaser is advised to discuss the plan with the contractor to ensure that it is fully understood, especially the allocation of risks and responsibilities.

Risk Register

A risk register may be initiated in the initial stages of project preparation (such as the environmental and social risks identified in the Environmental and Social Commitment Plan ESCP) and developed further at key milestones, such as design finalization and preparation of Procurement Documents. The risk register should be reviewed and updated (with the contractor's input) during contract award and/or signing of contracts and included in the CMP as a practical tool to support effective contract management.

Contract Start-up

Facilitating Contract Start-up or Commencement

It is incumbent upon the Employer or Purchaser to support, and where possible facilitate, the contract start-up or commencement. This includes:

1. preparing a CMP and discussing it with the contractor
2. ensuring that the contract management team is in place and fully resourced to undertake its responsibilities
3. ensuring that the contract management team is familiar with the contract, the CMP, the contract management systems and processes, and all the actions necessary for contract start-up
4. assisting the contractor in obtaining the necessary documentation such as: visas, residency, work permits etc. for expatriate staff, and custom facilitation or clearances for equipment.

In some contracts there are contract effectiveness or commencement conditions that need to be met for example, in Works contracts. These conditions are detailed in the contract documents and may include aspects such as: advance payment and/or opening of a letter of credit.

Where such effectiveness or commencement conditions exist, the Employer or Purchaser should ensure that it monitors that the contractor meets the respective obligations in a timely manner. If this does not happen, it could lead to delays in start-up, cost compensation requests by the contractor, and even termination of the contract.

Generally, the Employer or Purchaser or Contract Manager needs to take the following actions:

1. properly analyze and understand the contractual provisions and requirements, including functional, performance and/or technical requirements
2. establish Key Performance Indicators (KPIs) with contractor's input, as appropriate
3. ensure that the contractor submits an acceptable performance security or ES performance security, if required, in due time. Check that the amount, validity and text are in accordance with the contract document
4. if the performance security and/or advance payment security raise any doubt, verify the authenticity of the documentation with the issuing financing institution before making the advance payment

5. subject to submission of an acceptable advance payment guarantee, ensure that the advance payment is made in a timely manner
6. verify adequacy of any insurance policy taken out by the contractor (reference below on insurance)
7. if the contract applies a letter of credit as an instrument for payment, ensure that an error free letter of credit is issued in a timely manner
8. for site-based infrastructure contracts (such as Works and Plant), ensure that the contractor has submitted the required ES documentation as stipulated in the contract.

Insurance

Insurance provisions are valuable risk management tools. The Employer or Purchaser should ensure that:

1. the insurance policies are in place in accordance with the contract. In cases where the selected bidder or contractor indicated that it has adequate insurance already and does not need to purchase additional contract-specific insurance, the Employer or Purchaser should request for a verified statement from the insurance provider to this effect
2. the coverages are adequate and within the thresholds specified in the contract
3. the insurance policies contain the essential information such as coverage, duration, applicability etc.
4. due diligence is applied to checking the authenticity of the insurance document/s, that payment of insurance premiums is up to date, and the policy will continue to be valid for the required period
5. in civil law countries when the contract requires the contractor to provide decennial liability insurance or in other countries when the contract requires the contractor to provide latent defect liability insurance for Works (typically such insurance coverage begins upon Works Taking Over), such insurance policy must be provided at contract inception, failing which it would be extremely challenging if not impossible for the contractor to obtain such a policy at a later stage.

Figure V provides an Insurance Verification Checklist that may assist in ensuring that all insurable risks are addressed.

FIGURE V Insurance Verification Checklist

<u>Issuing company:</u>	Is the issuer of the policy/ies a properly established and reputable insurer in the Employer's or Purchaser's country or abroad? Information on foreign insurance companies may be available through the insurance market regulators in the home country.
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FIGURE V Insurance Verification Checklist (Continued)

<u>Amount:</u>	Does the insured amount properly cover the requirements of the contract?
<u>Coverage:</u>	Does the policy fully cover all general and specific risks that may occur on the site, and all risks identified in the contract?
<u>Continuity:</u>	The Employer or Purchaser should check proof of payment of insurance premiums and periodically request confirmation from the insurance company (say twice a year) that the respective policies remain valid.
<u>Validity:</u>	Is the policy valid for the entire period required by the contract? Did the contractor submit the proof of paying the premiums to the insurance company? If payments are to be made by the contractor periodically, the Employer or Purchaser needs to periodically request evidence of payments.
<u>Insured parties:</u>	Does the policy expressly name both the Employer or Purchaser and the contractor as jointly insured? Policies where only the contractor is insured are not acceptable as they transfer the entire risk to the Employer or Purchaser.
<u>Exclusions:</u>	Are there any exclusions? The Employer or Purchaser should check the exclusions of the policies and should request that the insurance company confirm the exact list of exclusions and their applicability.
<u>Deductibles:</u>	These represent the amounts that the insured party must cover from its own funds when an insured event occurs. Higher deductibles translate into cheaper insurance premiums, but also in higher risks, because the contractor and/or the Employer or Purchaser will need to cover more of the damage. The Employer or Purchaser should check the adequacy of the deductibles which should normally be expressed as specified amounts rather than percentages which may be subject to various interpretations.
<u>Terms and conditions:</u>	Check any terms and conditions that may render the policy invalid and under what circumstances or events. The Employer or Purchaser should check any conditions attached to the insurance policies such as prior notification requirements and any other clauses that may affect its rights under the terms of the policy.

Some Bottlenecks Affecting Contract Start-up and Commencement

Some examples of bottlenecks that often affect contract effectiveness or commencement are indicated below.

Permits

If the Employer or Purchaser must acquire planning, zoning, building permits or similar permissions for the Works, these should be obtained early in the process to allow timely effectiveness or

commencement. If the process for obtaining such permits is cumbersome or lengthy, the Employer or Purchaser should plan to initiate the process well in advance and take adequate measures to mitigate the risk of delays. Such measures may include:

1. acquiring the permits before entering into the contract
2. if the final design must be completed before the permits can be obtained, then completing the design before inviting bids or proposals (rather than applying a Design and Build approach, for example)
3. providing reasonable assistance to the contractor to obtain permits as required in the contract and the applicable law.

Environmental and Social Management Plans

Delays in submission of required contractor's documents to manage environmental and social risks and timely review and approval by the Contract Manager leads to delays in mobilization. The contracting parties should give due attention to this key requirement.

Dispute Review Board

Infrastructure contracts (such as Works and Plant) require standing (not ad hoc) dispute review boards to be in place within a specified period after contract signature. Delays in constitution of dispute review board could result in delays in the commencement of the contract.

Access to Site

A common cause of complications in infrastructure contracts is delay in giving the contractor access to, and possession of, the site within the time stated in the contract. If no time is stated in the contract, the Employer should give the contractor access and possession within such time that enables the contractor to proceed in accordance with the agreed program.

If the start of the program is delayed, this may result in time extensions for the Works, and increased costs to the Employer as a result of contractor's claims. Given the consequences, it is good practice that Employers prepare themselves well before award of contract to enable them to readily give the rights of access and possession in accordance with the contract.

Letter of Credit

Where the Employer or Purchaser has to arrange a letter of credit, it is important that this is done in a timely manner (to allow the Goods to be shipped) and that the letter of credit is in the correct form. Errors in the letter of credit require formal amendments, and this process results in delays. Further, a copy of the issued letter of credit is a key document for the Bank to disburse funds using the "Special Commitment" disbursement method. It is essential that the letter of credit is operational (for example, with a valid expiry date).

Customs Clearance

Even if not normally an effectiveness condition, any expected custom clearance bottleneck should be addressed by the Employer or Purchaser as early as possible. Customs clearance can in some places involve complex and lengthy processes. Delays can be caused by:

1. delayed payment of custom or import duties by the Employer or Purchaser or the contractor (whoever is responsible)
2. incomplete documentation or documents that don't comply with customs requirements
3. inherent bureaucratic hurdles in clearance procedures.

The time and effort needed to handle the formalities may be identified in the early planning stages and factored into the contract management plan. Appropriate mitigation measures should be put in place.

Contract Implementation: Managing Time, Cost, Quality and Risk

Time Control

An essential part of contract management is identifying the critical path. The critical path is the sequence of activities, which add up to the shortest time possible to complete the contract. Identifying the activities, the sequencing and other dependencies, and estimating times for completion, are the first steps in developing a robust and realistic schedule for contract implementation.

Key factors in time control include:

1. developing a comprehensive, practical and realistic schedule of key activities (this may include key deliverables and milestones and a projected contract completion date)
2. undertaking a quality assurance check of the schedule including identifying any flaws in logic or faulty assumptions
3. ensuring that the Employer or Purchaser or Contract Manager and the contractor are working to the same schedule
4. implementing an effective tool or system to track and monitor progress against the schedule
5. ensuring early intervention when a potential or actual delay is identified
6. implementing appropriate action to mitigate or manage a delay and recording the decision/s.

Time Extensions

The Contract Manager will often be required to decide when it is appropriate to allow a time extension. How the Contract Manager resolves delays will depend on the facts and circumstances of the delay, and on the terms and conditions of the contract. These could be, for example, a delay that:

1. is due to the Employer or Purchaser being in default (for example, failing to carry out its contractual responsibility which impacts on the contractor's ability to progress the work)
2. is due to new or extra work or services not included in the original scope.

Cost Control

Managing costs is essential to ensure that the contract is delivered within the contract price. The approach to managing costs will depend to some extent on the nature of the contract. The Contract Manager should have identified beforehand which types of cost (including any possible additional costs) are within the contractor's responsibility and which are not. The Contract Manager will need to be specifically mindful to the latter and fend off claims related to the former. The Contract Manager should put in place appropriate financial systems and reporting mechanisms that record the budgeted costs, track actuals and provide alerts where there are cost overruns. The key elements of a contract inventory report embedded within such a system, are indicated in Annex 5. It would be helpful to have a person assigned to track costs against actuals and provide regular report to the Employer or Purchaser. Figure VI provides examples that may cause cost overruns.

FIGURE VI Examples of Causes of Cost Overruns

Causes of Cost Overrun	Action
1. The Employer's or Purchaser's design has flaws.	■ On discovering the flaws, the contractor notifies the Contract Manager in accordance with the contract.
2. The Employer's or Purchaser's design is not capable of being implemented or constructed.	■ This may trigger a variation order and likely result in a cost increase and possible time delays.
3. Increased price of raw materials or products due to inflation, fluctuations in exchange rates, or changes in taxes, or duties.	■ To be managed in accordance with the contract.
4. Unforeseen conditions emerge, for example, a significant difference in sub-surface ground conditions from what was expected.	■ If contractually justified, the Employer or Purchaser or Contract Manager may approve the increase in cost or time extension.
5. Employer or Purchaser does not fulfil its obligations on time as per the contract.	■ Keep track of the Employer's or Purchaser's obligations and diligently address any delays in delivering on them.
6. Higher level of change orders or variations than expected (especially if they relate to high unit rates or prices).	■ The Employer or Purchaser or Contract Manager needs to scrutinize all change order or variation requests and when granted, to track and control cost increases. ■ The contractor must provide proper contractual justification, analysis, method statements, evidence of the origin of additional costs and the reasonableness of the cost increase. Circumstances that may justify approval include: <ul style="list-style-type: none"> ■ necessary design modifications ■ unforeseen change in conditions that materially affects costs ■ additional or reduced scope of works ■ Employer or Purchaser or Contract manager directed the acceleration or slowdown of contract progress ■ delayed, denied or restricted access to the site.
7. Fraudulent practices by suppliers, contractors or consultants such as overbilling, double billing, timesheets for no show, amongst other practices.	■ The Employer or Purchaser or Contract Manager needs to establish proper verification procedures, such as periodical internal audits to assist the double checking of supporting payment documents for contracts paid in multiple instalments, including consultant time-based contracts.

Price Adjustment

Some contracts allow the price to be adjusted where, for example, local or foreign inflation is expected to be high and/or the price of commodities is expected to be volatile. If applicable, the process for adjusting the price is detailed in the contract, including the appropriate formula/e to be applied. Contract cost control mechanisms include monitoring the correct application of price adjustment provisions, where included in the contract.

Price adjustment provision must be fully defined. This includes any parameters, indices, coefficients in price adjustment formula/e. The definitions must be established before contract signing, as otherwise, this could easily generate disputes that may be onerous to be resolved.

It has been observed that errors are committed in the design of price adjustment provisions resulting in non-economically justified payments to contractors or inadequate price compensations. Such errors are challenging to correct at a later stage because a signed contract must typically be enforced.

It has also been observed that, an otherwise adequately designed price adjustment provision, is not correctly applied by the Contract Management team, often resulting in overpayments to the contractor. When such payment errors are discovered prior to issuance of the final payment, they should be corrected.

A separate excel based [Contract Price Adjustment Computation Workbook](#) is available to support users in applying contractual price adjustments.

The following case studies, in Figures VII to X, illustrate the application of price adjustment provisions.

FIGURE VII Case Study: Application of a Price Adjustment Formula

The scenario: the currency of input is different from the currency of payment.

If a foreign currency component (say US\$) of the contract price (or a portion of the contract price, such as pavement work) is made of the costs of fuel, bitumen, equipment and spares for 20%, 30% and 40% respectively with a fixed portion of 10%, the formula for adjustment of this US\$ portion of the Contract Price would be:

$$\text{Adjusted Price} = \text{Base Price} * [0.1 + 0.20 * Fc/F0 + 0.30 * Bc/B0 + 0.40 * Eqc/Eq0]$$

Where F, B and Eq are respectively indices for fuel, bitumen and Equipment respectively, c refers to the current value of an index and 0 refers to the base value - at the Base Date of the contract which is normally specified as the date 28 days prior to the bid submission deadline. It is reasonable to expect that the bidder was aware of the various costs at this Base Date when preparing and submitting the bid or proposal.

(continues)

FIGURE VII Case Study: Application of a Price Adjustment Formula (Continued)

If an index I_x for a given input (input X) from a country (Country B) that is different from the country of the currency of payment (Country A), corrections must be applied. Let us see the variation of the price of Input X as measured from country A, using its cost converted to the currency of Country A:

- (i) at the Base date, the measurement of index value for Input X would provide the following data:

$$[I_{x0} * \text{value of one unit of currency of country B in currency of country A on the Base Date}]$$

whereas

- (ii) at a certain current date, the measurement would provide the following data:

$$[I_{xc} * \text{value of one unit of currency of country B in currency of country A on current Date}]$$

Hence the variation of cost of input X measured from country A, using its cost converted to the currency of Country A would be:

$$\frac{[I_{xc} * \text{value of one unit of currency of country B in currency of country A on current Date}]}{[I_{x0} * \text{value of one unit of currency of country B in currency of country A on the Base Date}]}$$

FIGURE VIII Case Study: Adequate and Inadequate Application of Price Adjustments

Let's assume that Country A (country of currency of payment) experiences no inflation during the period considered (such as, from Base Date to the current date). Whereas Country B (country of origin of indices) experiences 100% inflation for the cost of a given input. Consequently, the value of the corresponding price adjustment factor I_c/I_0 may equal 2.0, reflecting 100% inflation or doubling of price for the input in the currency of country B.

During the same time, the Country B currency has considerably weakened against Country A currency and the following is observed:

$$I_{x0} = \text{Value of one unit of currency of country B in currency of country A on Base Date} = 0.4$$

$$I_{xc} = \text{Value of one unit of currency of country B in currency of country A on current Date} = 0.2$$

Scenario 1: If no correction were applied, the payment would be adjusted by a factor of I_c/I_0 (or 2.0), unduly because the cost of the given input did not fluctuate in the currency of payment, which is the currency of Country A.

Scenario 2: If the correction were applied incorrectly for instance, by using the following formula in which the sequence of "country A" and "country B" has been inverted:

$$\frac{[I_{xc} * \text{value of one unit of currency of country A in currency of country B on current Date}]}{[I_{x0} * \text{value of one unit of currency of country A in currency of country B on Base Date}]}$$

The adjustment factor would turn out to be or $2.0 \times 0.4/0.2$ which equals 4.0! Obviously, the given payment would be unduly adjusted by a large factor on account of the given input, when actually no adjustment was justified.

Scenario 3: If the correction to the currency of payment is correctly applied the actual adjustment to the contract price in the currency of Country A (currency of Payment) would be:

$$= I_c/I_0 \times I_{xc} / I_{x0} = 2.0 \times 0.2/0.4$$

The value of which is 1.0, reflecting that no adjustment will be made on account of the given input. Note that in the real world, the value of this factor may be different from 1.0, but normally not very substantially.

FIGURE IX Case Study: Inadequate Application of Price Adjustments

An Employer chose Alternative A in the bidding documents such as, the contract price is entirely in local currency with percentages of foreign currencies. The rates of exchange to be used as specified by the bidder to determine the amounts of foreign currencies based on the percentages was included in the contract and shall apply for all payments under the contract so that exchange risk will not be borne by the contractor.

In determining contractual price adjustments, the Employer/Purchaser/Contract Manager applied the formulae to the amount of payment due expressed in the local currency, for example, before converting the amount to the currency/ies of payment, and then wrongly added up all the amounts obtained expressed in the local currency prior to breaking down the resulting sum according to the currency split which is the method of the said Alternative A.

Such errors defeat the purpose of having a different price adjustment formula for each payment currency and may result in excessive payment to the contractor for price adjustment in one or more of the stronger currency/ies as the related payment may unduly “benefit” from a higher inflation in another currency, in particular if the inflation rate in the country of the Employer or Purchaser is, for example, a two-digit figure.

FIGURE X Case Study: Inadequate Application of Price Adjustments

An Employer issued a contract for road rehabilitation. This is a 24 months’ contract with price adjustment clause. The Employer and the contractor did not apply the price adjustment clause till the first 18 months. They then started to apply the price adjustment provisions. The price adjustments were applied with wrong indices and coefficients. For example, the fixed coefficient in the applied formula was 0.02, instead of 0.2 in the contract.

Use of Proxy Indices

A specific price index may not be available from existing official publications or is available but cannot be used in practice because its value is not regularly published. This may occur for local indices in some countries, such as indices to be used in the formula for local currency adjustment. A proxy index may have been agreed to be used, and/or computed, for instance, by surveying the cost of the corresponding input from the local market. The average monthly cost observed for the item may be used as the value of the proxy index. In any case, the Employer or Purchaser should not rely solely on data provided by the contractor to establish proxy indices as such data may be biased or manipulated.

Replacement of Indices

During the term of a contract, the publication of a given price index may have been discontinued, or the index value may have been reset to 100. In such cases, the Employer or Purchaser needs to proceed with a new index or the reset index, with some adjustment. If the source of publication of

the discontinued index (say I_{old}) recommends the use of another applicable index (I_{new}) from a date i , then after the date i the factor $[I_{oldc}/I_{old0}]$ should simply be replaced with $[I_{oldi}/I_{old0} * I_{newc}/I_{newi}]$. The new index takes over from the old one after “date i .”

There may also be cases when a (technical) amendment to a contract may require modifying the selection of a specific index or the weightings in the price adjustment provision, for example, lime was to be used in the original contract but is deleted early in the contract and cement used instead for soil stabilization. In such cases, following a careful assessment of implications, the formula(e) may be amended by contract amendment, to reflect the changes in both the indices to be used and perhaps the weight of the corresponding inputs (the old and the new ones) in contract price whenever a renegotiation of unit rate is also necessary.

Formula Redesign

Normally, a price adjustment formula established at the time of award of the contract will be used throughout contract implementation. However, there may be exceptional circumstances which require that the price adjustment formula be redefined at some point in time during the term of the contract. This may happen when the original formula does not reflect the actual relative cost proportions due to, for example, major changes in design or unusual fluctuations of certain cost elements. In such cases, the continued use of the same price adjustment formula using same Index may distort the price adjustment and a redesign of the price adjustment formula may be justified following a careful assessment of the implications.

Fixed Price Contracts and Inflation

It is an established practice to include price adjustment provisions for relatively long duration contracts (normally exceeding 18 months). It is also highly recommended to include price adjustment provisions for shorter duration contracts where inflation (for the expected inputs depending on the nature of the contract) is expected to be high. The latter may be the case, for example, for supply of equipment with metal component in a volatile commodity market or where circumstances in some parts of the world are expected to have far reaching implications in the supply chain. Such aspects should be assessed as part of the PPSD or subsequent updates.

Despite some views that price adjustment provisions benefit the contractor or supplier or consultant only, it should be kept in mind that price adjustment provisions are intended to mitigate risks and benefit both sides (including the Borrower by not paying a risk premium and, in principle, benefit when prices indices are decreasing with time) by having a contract as close as possible to the realities of the market.

Notwithstanding the above, the Employer or Purchaser may have issued a fixed price contract to which bidders, including the contractor, complied with. During contract execution, market circumstances may have significantly changed, or the change was already there, and the parties did not give much attention to it during the procurement process. The contractor requests the contract to be changed to adjustable price contract.

The above is not straight forward consideration. It affects transparency and fairness as it changes the basis of competition. The argument is that the contractor (as a bidder or proposer) would have

assessed its risk of entering into a fixed price contract and already included a risk premium in its bid price. On the other hand, the market situation at the time of contract execution may be so adverse and may be deemed not to have been reasonably foreseen during the procurement process. Any consideration to modify the contract in this regard should be on a case-by-case basis by carefully assessing the risks, benefits and implications.

Quality Control

It is critical to monitor and assess quality as the contract is being implemented. This ensures that quality is controlled and consistently delivered and limits claims and disputes. There are different types of quality management and control systems. It is important to select an appropriate system or methodology based on the nature of the contract. The system should be agreed with the contractor and put in place before the contract commences. Figure XI provides examples of some causes of poor quality outputs and the types of action that may be taken.

FIGURE XI Examples of Causes of Poor-Quality Outputs

Causes of Poor Quality	Action
1. Flaws in the Employer's or Purchaser's design.	<ul style="list-style-type: none"> ■ On discovering the flaws, the Employer or Purchaser or contractor immediately notifies the other in accordance with the contract. This may trigger a variation order and likely result in a cost increase, and possible delays.
2. The deliverables do not meet the required specifications and any enhanced quality features that it had offered and considered in the evaluation of bids or proposals (the latter when for example rated criteria or point system is included in the bid or proposal evaluation framework).	<ul style="list-style-type: none"> ■ Monitor the contract closely, including using KPIs, to enable early identification and resolution. ■ Investigate to determine the cause/s. ■ Apply the appropriate contractual remedies.
3. Poor quality assurance tests or inspections do not identify issues with the quality being delivered.	<ul style="list-style-type: none"> ■ Redesign the quality assurance tests or inspections to ensure that quality issues are found and dealt with.
4. Fraud and corruption result in inferior materials being used and poor-quality outputs.	<ul style="list-style-type: none"> ■ Report suspected fraud and corruption to the Bank. ■ Apply appropriate contractual remedies.

Tests and Inspections

For some contracts, the Employer or Purchaser or its representatives may need to attend tests and/or inspections in the premises of the supplier (contractor). The applicable Bank's standard contract provisions require the supplier to provide all reasonable facilities and assistance related to the inspection or tests at no charge to the Employer or Purchaser. However, the Employer or Purchaser is required to bear its own travel and accommodation costs and expenses in relation to attending the inspection or test.

Managing Contract Risks

General

The Contract Manager should regularly review the risk register (with inputs, as appropriate, from the contracting parties) during contract implementation to ensure that the risks are being managed proactively by those to whom the mitigation measures have been allocated to and to identify emerging risks. Reference the following examples,

1. Has the contractor provided an update of the work program and has the Employer or Purchaser reviewed this against the schedule for the release of land (to enable the contractor to proceed without delay)?
2. Has the Employer or Purchaser provided the necessary permits that it is responsible for?
3. Has the Employer or Purchaser provided the designs and drawings to contractors (when required by the contract)?
4. Have any risks related to the process for making contractual payments been mitigated?
5. Is the process for responding to contractor's notices operating as envisaged?

Any emerging risk/s should be analyzed, and mitigation measures allocated before the risk/s materializes and becomes a bottleneck to contract implementation.

Managing specific risks, such as environmental and social risks including SEA/SH risks, are discussed in the appropriate sections.

Other relevant risks to be appropriately managed and monitored include the following:

Cybersecurity Risks

An important risk element that is worth highlighting here is cybersecurity risk.

The integration of ICT products and services in Bank-financed projects and the growing reliance on digital technologies increase exposure to cybersecurity risks across a wide array of sectors.

Relevant Bank's conditions of contract in SPDs (mandated for contracts under international competitive procurement), require applicable cybersecurity contract provisions to be included depending on the assessed risk. In this regard, the Contract Manager shall ensure regular and comprehensive monitoring of such risks. Reference the following examples,

1. The contractor implements the Employer's requirements (specifications) and its strategy submitted and evaluated (including by applying rated criteria as appropriate) as part of its proposal and adjusts as appropriate to manage any emerging risks.
2. The contractor, including its sub-contractors or suppliers or manufacturers take technical and organizational measures necessary to protect the information technology systems and data used in connection with the contract.

3. Progress reports include status of compliance to cybersecurity risks management, and any foreseeable cybersecurity risk and mitigation.
4. Any adverse cybersecurity incidents are reported immediately.
5. Effect, if any, on cybersecurity risks assessed when considering contract modifications.
6. Contractual remedies, such as withholding of payments for failure to perform cybersecurity obligations, are applied in accordance with the contract.

Supply Chain Risks

Supply chain risks should be assessed upfront as part of the procurement strategy and design of procurement documents, and depending on the assessed risk, bidders or proposers be required to provide their method statement to manage any identified supply chain risks which would have been among the elements evaluated (including applying rated criteria as appropriate). During contract execution, the Contract Manager shall monitor that the contractor implements the Employer's requirements (specifications) and its strategy submitted and evaluated as part of its proposal and adjusts as appropriate to manage any emerging supply chain risks.

Forced Labor Risk in Solar Panels and Components

Child labor and forced labor risks in the procurement and contract management of solar panels or components are among key risks to be managed during contract execution. Applicable Bank's SPDs include appropriate contract provisions prohibiting child labor and forced labor.

Given the significant risk of forced labor in the global supply chain for solar panels and solar components, and to support forced labor risk mitigation, the Bank requires Borrowers to strengthen procurement documents that include solar panels or components for the "core functions of a project" as defined in the World Bank Environmental and Social Framework.

These strengthened measures include forced labor bidder declarations and strengthened forced labor contractual provisions. The new requirements apply to both international and national competitive procurement and any direct selection or direct contracting within the scope of application.

In managing such contracts, the Contract Manager should closely monitor to ensure that the contractor has adequate arrangements in place to manage the risk. Reference the following examples,

1. Contracts with its sub-contractors or suppliers or manufacturers of solar panels or solar panel components, should include:
 - a. obligations to prevent forced labor among the staff, employees, workers and any other person employed or engaged by the sub-contractor or supplier or manufacturer; and
 - b. obligations to prevent forced labor in all contracts that they execute with their suppliers or manufacturers of solar panels or solar panel components.

2. The contractor regularly monitors its sub-contractors, suppliers, and manufacturers of solar panels or solar panel components on implementation of obligations to prevent forced labor among the staff, employees, workers and any other person employed or engaged by them.
3. The contractor requires its sub-contractors to monitor their suppliers and manufacturers of solar panels or solar panel components on implementation of obligations to prevent forced labor among the staff, employees, workers and any other person employed or engaged by them.
4. The contractor requires sub-contractors and suppliers and manufacturers to immediately notify the contractor of any incidents of forced labor;.
5. The contractor immediately notifies the Employer any incident of forced labor on the site, or premises of sub-contractors or suppliers or manufacturers of solar panels or solar panel components.
6. The contractor includes in periodic progress reports submitted in accordance with the contract, sufficient details of its monitoring and reporting, including of its sub-contractors and/or suppliers and/or manufacturers, for compliance with forced labor obligations.

Managing Contract Changes

The Need for Change

To some extent, the need to change or vary a contract depends on the nature and complexity of the Goods, Works, Non-consulting or Consulting Services being procured. A one-off straightforward purchase of Goods, for example, is unlikely to require changes to the contract (unless there has been an error) compared to a complex infrastructure contract which may require a number of changes as works progress. Despite the best efforts of the contracting parties, changes in a contract may be necessary for a range of reasons, such as errors, unforeseen conditions, emerging risks and changes in the Employer's or Purchaser's needs. Changes in a contract may also be due to application of value engineering. The latter is treated in the next section, "Managing Value Engineering."

Change Management Procedures

The key to managing change is to establish robust change management procedures and to ensure that these procedures are followed. Some tips to good practice change management include:

1. as early as possible during the contract execution phase (if not included in the contract documents beforehand), establish a formal and documented change management process consistent with the scope of the contract
2. have appropriate forms and clear procedures for requesting a change proposal (or change order), estimating the change (for example, scope, costs, implications and risks), and approving the change proposal (the SPD for Plant, for example, includes relevant change order procedure and forms)
3. clarify who is responsible for what during change management, and ensure that individuals have clear delegated authority to act, or to escalate change requests where there are issues
4. familiarize those involved in contract change management (for example, Contract Managers, consultants, contractors) with the procedures, documents, decision making process and record keeping requirements
5. identify areas susceptible to change, evaluate risk, and proactively manage those areas
6. ensure timely communication of change information to the relevant people

7. make sure all relevant factors are considered when assessing change proposal (for example, in terms of technical, quality, impact and risks (including ES impacts, if applicable), time and cost)
8. monitor the change management process to ensure that proper procedures are being followed
9. ensure that changes are captured as addenda to the contract, and approved at the appropriate level specified in the contract
10. unless contractually justified or due to an emergency situation, do not order or execute changes to a contract without the appropriate change documentation
11. comply with the Bank's requirements for prior review to changes to a contract
12. adhere to the Bank's requirements where the changes relate to a contract with a firm that has been sanctioned by the Bank (see below "Bank Sanctioned Firms")
13. keep complete records of all change orders, including the reasons
14. at contract close-out, evaluate the changes and their impact/s on the contract cost, schedule and performance for future use as lessons learned.

Bank Sanctioned Firms or Individuals or Disqualified Firms

The Bank does not finance any amendment introducing a material modification to an existing contract with a suspended or debarred firm or individual or a firm disqualified for SEA/SH noncompliance. This applies on or after the effective date of suspension, debarment, or disqualification. Material modification should be assessed carefully on a case-by-case basis.

When a firm or individual has been sanctioned or disqualified by the Bank after a contract was signed, the Borrower shall apply additional due diligence by closely supervising and monitoring any ongoing contract (whether under prior or post review). The Borrower shall neither sign any new contracts nor sign an amendment, including any extension of time for completion or a change or variation order, to an on-going contract with a suspended, debarred or disqualified firm or individual after the effective date of the suspension, debarment or disqualification without the Bank's prior review and no objection.

Managing Value Engineering

Value Engineering

The term 'value engineering' (VE) refers to a technique for improving the value in a contract. Value can be increased by either improving the function or reducing the cost. It is sometimes described as "providing the necessary function/s at the optimal cost."

VE involves a systematic method of analysis. It requires the examination of the function of the contract, system, product, item of equipment, building, facility, or service, with the objective of improving performance, reliability, quality, safety, and/or costs (including life-cycle costs). VE could result in the reduction of time or the substitution of better materials, more efficient methods, or less expensive inputs, all without sacrificing the needed functionality, longevity, or reliability. The fundamental premise is that the basic function/s is preserved and not reduced because of a VE improvement.

Value Engineering Benefits

VE analysis could help the Employer or Purchaser to realize benefits such as:

1. design improvements
2. cost savings
3. improved constructability
4. accelerated incorporation of new materials and construction techniques
5. elimination of unnecessary functions and establishment of combinations of functions that are more responsive to the needs of the Employer or Purchaser
6. reduced environmental impacts
7. reduced schedule
8. reduced risk
9. improved operations
10. greater opportunity for stakeholders' participation in the process
11. improvement of standards and/or policies.

VE may be undertaken at various stages during the procurement, including:

1. concept design
2. preliminary design
3. submitted proposals and before the decision to award the contract
4. final design stage
5. contract execution for example, during construction.

When a contract allows for VE, the process for undertaking VE needs to be stipulated in the contract. Normally, the contract will state:

1. how the benefits arising from the VE will be shared between the parties
2. the process for the contractor to prepare and submit a VE proposal
3. provision that the VE proposal is prepared at the contractor's cost, and the decision of whether to adopt the VE proposal rests solely with the Employer or Purchaser or Contract Manager
4. the acceptable reasons for initiating a VE proposal, such as: reduction of costs to the Employer or Purchaser, enhanced performance, shortened completion time, or the creation of some other benefit/s to the Employer or Purchaser.

VE at the Design Stage

VE may be used when the design is in the schematic stage. VE provides an opportunity to review the proposed design solution/s, the cost estimate, and the proposed implementation schedule and approach, with the objective of refining the solution to find the best value for the money option.

Undertaking a VE workshop at the initial design stage may result in enhanced benefits for the contract. Workshop activities may include:

1. determining and evaluating the essential functions of the present design
2. realistic assessment of costs
3. examining costs and determining the present design constraints;
4. obtaining relevant and up-to-date information from the best possible sources
5. brainstorming to challenge the initial conceptual design and thinking and creating alternative design/s that meet the basic function required
6. using sound, practical judgement

7. assessing the technical and financial feasibility of the new design/s
8. consulting experts to test the new design/s
9. making a VE recommendation describing and justifying the new design.

VE During Contract Implementation

The purpose of including the VE provisions in the contract is to encourage contractors to investigate, for example, improved construction methods and materials, submit VE proposals and, upon acceptance, receive fair and reasonable compensation.

During contract implementation, VE improvements may be applied if provided for in the contract. A contractor working on site every day is in a good position to identify VE opportunities and can provide a fresh approach to the construction methods or materials that could reduce the cost and/or time.

Submitting a VE Proposal

The following is generally good practice information (for exact required information, refer to the applicable contract), for a contractor's VE proposal:

1. the proposed change/s, and a description of the difference to the existing contract requirements
2. a full cost/benefit analysis of the proposed change/s including a description and estimate of costs (including life-cycle costs) the Employer or Purchaser may incur in implementing the VE proposal
3. a description of any effect(s), implications or risks of the change on performance or functionality
4. sufficient information to enable assessment of risks and impacts such as on ES, supply chain and cybersecurity, as applicable
5. a description of the comparative advantages and disadvantages of existing contract requirements and the VE requirements
6. a justification when an item's function or characteristic is being changed and any effect of the change on the end item's performance
7. any pertinent objective test data
8. any contract requirements that must be changed if the VE proposal is accepted, including any suggested specification revisions.

Managing Contractual Disputes

Contract Disputes

Contractual disputes are often time-consuming, expensive and difficult. They can damage Employer or Purchaser and contractor relationships, cause delays and negatively impact contract execution. They could also substantially increase the contract price. It is therefore in the interest of contracting parties to work at avoiding disputes in the first place. This can be achieved, among other things, through developing good communications and managing working relationship with the contractor.

To minimize contractual disputes and complication, all parties need to effectively carry out their duties in accordance with the contract. For Works contracts, for example, as mentioned in the section “Special Considerations: Works and Plant Contracts,” the Contract Manager (Engineer, Employer’s Representative etc.) has a key role in effectively handling matters for its determination and claims.

Despite best of efforts, matters may elevate to the level of disputes. When they do, every attempt should be made to find an efficient and cost-effective resolution including through amicable settlement. The dispute should be managed actively and positively and at the right level/s. A quick resolution saves time, money and effort at later stages. If the dispute remains unresolved, on the other hand, delays in resolution can lead to rapid escalation of costs and further damage to relationships and ultimately termination of the contract.

Dispute resolution, in its widest sense, is any process which can bring about the conclusion of a dispute. Techniques range from the most informal discussions, through to formal negotiations, mediation and arbitration. Arbitration and litigation should be considered as resolution methods of the last resort.

Dispute Management

Contracts should set out the procedures to be used when a dispute arises. Often these will focus on formal processes such as arbitration. For major contracts (such as Works and Plant), the contract documents specify the role of the Contract Manager (Engineer, Project Manager etc.) in making determinations on claims. All parties are expected to act in accordance with the contractual provisions in this regard.

Depending on the contract, alternative dispute resolution mechanisms include:

1. adjudicator
2. dispute review expert
3. dispute review board.

If the contract provides for the appointment of a dispute resolution mechanism, contracting parties should ensure that the mechanism/s is put in place in a timely manner. Trying to establish this mechanism after a dispute arises is a recipe for failure. Contracting parties should do their part to ensure the effective operation of the chosen mechanism.

It is in the benefit of the parties to try to settle a dispute amicably before the commencement of arbitration. Amicable settlement, if carried out professionally and in good faith, can save contracting parties time and cost while preserving their working relationships.

Arbitration

Contracts with international firms should apply international commercial arbitration in a neutral venue unless the national regulations and arbitration procedures are acceptable to the Bank. International commercial arbitration has many advantages compared to national courts. As contracting parties (contracts with foreign contractors) come from different jurisdictions around the world with different legal, cultural, political and ethical contexts, international commercial arbitration provides a neutral venue to settle disputes effectively.

Some of the aspects that may help Employers or Purchasers in preparing for an arbitration include:

1. check the pre-arbitration procedures in the contract and assess whether you have complied with them
2. conduct an early case assessment with legal advisors at the outset of the dispute, and review periodically as the arbitration progresses. This helps to get an early sense of potential outcomes and costs of the arbitration and make necessary preparation accordingly
3. brief relevant management or authorities on the nature of the arbitration, why the parties have been unable to resolve the dispute, how long the arbitration may take, expected costs and potential outcomes
4. advise concerned staff and managers that an arbitration is about to be initiated so that they will be readily available, if needed, at the arbitration hearing. Where possible, it may be a good idea to book possible hearing dates in their diaries to ensure their availability
5. manage the risk of internal and external communications on the issues in dispute. This involves relevant Employer or Purchaser staff being advised to avoid any internal or external communications outside of the established contract management protocol with legal counsel advice
6. issue a document retention notice. This means advising all involved to preserve and retain relevant documents by explaining the nature of the documents and how to retain them. Where the contract has a systematic recording mechanism, this may not be an issue.

Contractual Remedies

Contractual Remedies

Contractual remedies are available for both the Employer or Purchaser and the contractor. The main purposes of such remedies are:

1. to ensure each party to the contract is legally bound to perform its obligations under the contract, and stipulate the consequences of failure to do so
2. to provide specific redress in situations calling for remedial action for example, financial protection against damage, delay, defect and other contractual breach.

Contracting parties are expected to be familiar with the contractual remedies stipulated in the contract. The remedies available will depend on the nature of the contract. Figure XII provides examples of Employer remedies based on a contract for Works and Figures XIII examples of contractor's remedies.

FIGURE XII Example: Employer's Remedies, Based on Contract for Works

Remedy	Situations Which May Trigger This Remedy
1. Notification instructing a correction of default.	■ Occurrence of default by the contractor.
2. Withholding of payment/s.	■ Failing to perform work or obligation in accordance with the contract. ■ Not meeting ES obligations.
3. Calling performance security.	■ Contractor breaches its obligations under the contract.
4. Calling ES performance security.	■ Contractor breaches its ES obligations under the contract.
5. Applying liquidated damages (delay damages).	■ When the contract or sections of contract are not completed within time stipulated.
6. Termination of contract.	■ Upon the occurrence of a termination event specified in in the contract.
7. For major Works, making SEA/SH referrals to the dispute review board and carrying out subsequent steps, in accordance with the contract.	■ Potential SEA/SH contractual non-compliance.

FIGURE XIII Example: Contractor's Remedies

Remedy	Situations Which May Trigger This Remedy
1. Extension of time for completion.	■ Employer is in default of the contract: for example, delayed drawings or instructions, failed to provide access to and possession of the site.
2. Cost compensation.	
3. Financing charges.	■ Late payment by the Employer.
4. Suspension.	■ Delays in payment, unavailability of funds.
5. Termination.	■ Upon the occurrence of a termination event specified in the contract.

Performance Security

The performance security is an important contractual remedy tool. For contracts that include performance security, Employers or Purchasers or Contract Managers should enforce and ensure timely extension, as appropriate.

Delay Damages

Another important remedy instrument that the Employer or Purchaser or Contract Manager can use is delay damages.

Contracts normally provide a percentage or an amount to be deducted from the payments due to the contractor if it fails to deliver the contract within the stipulated time. There is usually a limit on the aggregate amount (say, 10% of the contract price). Once the aggregate amount has been reached the contract provisions usually allow the Employer or Purchaser to terminate the contract. However, the Employer or Purchaser may decide not to terminate the contract if contract continuation is a better option.

Termination

Termination of a contract is the ultimate remedy for default. Figure XIV summarizes some of the key issues observed when an Employer or Purchaser tries to terminate a contract.

Figures XV and XVI provide case studies.

FIGURE XIV Contract Termination Issues

Issue Related to Termination	Recommended Action
1. There is a lack of evidence supporting the Employer's or Purchaser's claim that the contractor has defaulted for example, insufficient records	<ul style="list-style-type: none"> ■ Keep records of performance, delivery, communications, notices, dates and the people involved. ■ Ensure an adequate contract management system is in place to ensure appropriate records are securely stored and readily available.
2. No contractual justification for the termination.	■ Before initiating the termination, check that the breach is described in the contract as a cause for termination.

FIGURE XIV Contract Termination Issues (*Continued*)

Issue Related to Termination	Recommended Action
<p>3. Not complying with termination procedures as set out in the contract. This may lead to the following issues:</p> <ul style="list-style-type: none"> a. manner in which the contractor leaves the site and the Employer or Purchaser entering to have the works completed b. valuation at date of termination c. determination of payment including amounts for any loss or damage. 	<ul style="list-style-type: none"> ■ Before initiating the termination, check the contract to determine the procedures for termination and follow them.
<p>4. Following termination, lack of timely action by the Employer or Purchaser in completing the remaining works leading to deterioration of the components of the contract already delivered (for example, an incomplete road is left to deteriorate for months).</p>	<ul style="list-style-type: none"> ■ Quickly assess the status of the works and decide the most feasible option to complete the remaining works for example, force account, open bidding, limited bidding, direct contracting etc.

FIGURE XV Case Study: No Record of NoticesSituation:

An Employer issued three Works contracts to a contractor to rehabilitate rural roads within 18 months. Six months after contracts were signed, the Employer found that the contractor was performing in only one contract and there was little progress in the other two. The Employer informed the contractor several times to rectify this. After twelve months, the Employer decided to terminate the two contracts that were showing little progress.

Issue:

When the Employer decided to issue the letters of termination, it discovered that all previous notices to the contractor were verbal and there was no written documentation to substantiate their action to terminate.

Result:

The termination process was delayed for several months with all the consequences.

FIGURE XVI Case Study: Employer Causes the ProblemSituation:

In a Works contract, an Employer tried to terminate by using one of the contractor's defaults that could lead to termination, in this case, the contractor abandoned the Works. The contractor contested stating that it had given the required notice on its suspension of Works due to delay in contractual payments by the Employer. The contractor provided evidence of how the Employer had delayed payments which resulted in serious impact on the construction cash flow to the extent that the contractor was not able to sustain the site operations.

Issue:

Termination due to the alleged contractor's default was indefensible.

Lessons to be learned:

1. understand the provisions of the contract and how they apply
2. ensure that the Employer complies with all of its contractual obligations
3. make timely payments in accordance with the contract
4. be mindful of the consequences of undue delay in payments to a contractor, which in this case, resulted in stopping site operations because of cash flow problems.

Fraud and Corruption

The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as specified in the World Bank Group Sanctions Framework, as set forth in the Fraud and Corruption (F&C) provisions of the contract.

Any suspected F&C should be promptly reported to the Bank's [Integrity Vice Presidency](#) (INT). This webpage provides an Integrity Complaint Form.

Several measures can be taken to safeguard against F&C.

1. Contracting parties, and all those that are involved in the delivery of the contract, are required to observe the highest standards of ethics and refrain from F&C during the procurement process and contract execution of Bank-financed contracts. All parties involved in the execution and management of contracts should therefore hold themselves and their staff to the highest levels of integrity and professional conduct.
2. Contracting parties should take F&C seriously and take appropriate remedial actions (such as removal of personnel from site and contract termination when F&C is detected).
3. The Bank has the right to inspect the site and the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Bank at the Bank's request.
4. Any obstruction to impede the exercise of the Bank's inspection and audit rights constitutes a F&C with all the consequences.

F&C practices may manifest in different forms. Some examples of F&C red flags include the following:

1. poor quality of materials and/or workmanship
2. change orders that are not contractually justified
3. unjustified changes in specification and/or contract conditions
4. payments not in accordance with the contract
5. false or duplicate invoices.

For additional resources on preventing F&C, refer to the information on 'prevention' at the Bank's [Integrity Vice Presidency \(INT\)](#).

Special Considerations: Works and Plant Contracts

Managing infrastructure contracts such Works and Plant demands additional considerations in addition to the generic aspects described earlier.

Project Management Software

Complex contracts, such as civil Works and design, supply and installation contracts, normally require the use of reputable project management software. The chosen software should enable the contract management team to monitor the physical progress of the Works or Plant against the planned schedule, and actual payments made against budget. The Employer should ensure that the contract management team is trained in the software, and that the software is fully deployed and operational from the start of the contract.

Infrastructure contracts (such as the “FIDIC Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer” Second edition 2017, reprinted 2022 with amendments (the Red Book)) require that the work program is prepared and revised using the programming software named in the specification (if not stated, the programming software acceptable to the Engineer).

There are many types of software that are based, for example, on tracking the critical path (Critical Path Methodology (CPM)). The Employer may choose software which has been reviewed and pre-approved. If the Employer wishes to name a software in the specification, it is recommended that at least three choices of software are given, with the words “or substantially equivalent” added. If not included in the specification, the Employer should ensure that the contract management software to be used by the contractor is fit for the purpose given the nature, complexity and size of the contract.

The software chosen to support contract implementation should serve at a minimum to:

1. provide additional assurance by the contractor of adequate planning, scheduling, progress, financial management, risk management and reporting so that the activities under the contract are carried out in an orderly and expeditious manner within the contract completion time and the milestones specified in the contract
2. provide additional assurance by the contractor of the coordination of the work of the contractor and its sub-contractors
3. enable the Employer or Contract Manager to monitor the progress of the Works or Plant and evaluate the contractor’s progress payments

4. assist the Employer or Contract Manager to evaluate the potential impact of proposed changes to the contract
5. assist both the Employer or Contract Manager and the contractor in the early detection of problems, risks and issues to enable taking timely corrective action and provide a mechanism for determining and monitoring such corrective actions.

The Employer or Contract Manager should use the software to determine if the contract is starting to fall behind. It may also give an early warning that the contractor is having difficulties that may result in a claim against the Employer. This could be done, among other things, by:

1. requiring that major revisions to the contractor's work program should be preceded by full documentation on the status of the contract. Minor revisions (such as addition of changes and unanticipated events to the last update to determine their impact) may be done on a contemporaneous basis
2. requiring a full and complete update of the status of the contract prior to modifying the approved baseline plan
3. checking that actual start and intended completion dates and remaining durations for work in progress match the present situation on the ground
4. carefully reviewing to determine if the contractor is deviating from its plan and the reasons why
5. reviewing the near-term critical and near-critical paths so that the risk is mitigated in a timely manner
6. checking signs of understaffing or lack of progress on non-critical but soon to be critical activities.

Delays Due to the Employer

Lack of timely readiness and planning (prior to entering a contract) by Employers is known to be a major cause of delays in execution of infrastructure contracts.

Figures XVII and XVIII provide case studies that illustrate this issue.

FIGURE XVII Case Study: Infrastructure Upgrade

Situation:

An Employer issued a Works contract for upgrading infrastructure. There were significant land related issues.

The Employer tried to advance the land related issues in parallel with the procurement process. The Employer awarded the contracts while some land issues were outstanding and unresolved.

Two years after contract award, the Employer was not able to fully resolve the land related issues. The contract was revised with reduced scope and contract execution was delayed by about 18 months.

FIGURE XVII Case Study: Infrastructure Upgrade (*Continued*)Lesson learned:

1. Employers need to apply a project management approach and an appropriate software tool covering site acquisition, resettlement, environmental permits, coordination with other relevant government departments, consistency of design review and contract selection and implementation plan to ensure readiness to proceed with the procurement
2. Employers should take prompt action on activities identified within the critical path, or that could fall within the critical path.

FIGURE XVIII Case Study: New Water Treatment SystemSituation:

An Employer issued a Works contract to rehabilitate a drinking and wastewater system. This was a design and build contract and there were several design changes.

Initially it was a lump-sum contract and then it was converted to an admeasurement contract. The contract was amended seven times and had three variation orders with price increases. There were many non-tendered items in the revised bill of quantities.

Lesson learned:

Plan properly. Choose the right contracting strategy from the outset based on a number of considerations (see Annex 1) instead of having to change when the contract is in progress.

Variations

Variations in Works admeasurement contracts need to be carefully managed. Considerations include:

1. verifying supporting documents (specifically to check how appropriate or necessary are the proposed variations)
2. checking how the variation was valued (such as, were the existing contract rates correctly applied, if new rates were used, were they correctly constructed based on fair market prices etc.)
3. checking if a change in unit rates would be appropriate or required according to the contract
4. checking if the time impact (extension of time for completion) has been correctly assessed and is duly justified

5. checking if the variation has taken due consideration of the impact of managing key risks such as on ES, supply chain and cybersecurity, if applicable
6. checking the level of approval required for the variation (for example, approval by the Contract Manager or Employer).

Site Visits

One of the key responsibilities of the Employer throughout the execution of an infrastructure contract is to maintain a good understanding as to what is happening on site. This cannot be done effectively without inspecting the site. Employer's technical experts should be actively involved in the site visits, and it is recommended that the Employer undertakes joint site visits with the Contract Manager. This will ensure that any issues identified during the site visits can be discussed with the Contract Manager, and appropriate action agreed.

The Contract Manager should undertake regular site inspections to ensure activities are progressing in accordance with the contract requirements. The Contract Manager should ensure that it has the right skills available to inspect the activities being undertaken and that inspections are regularly carried out jointly with the contractor.

Site inspections normally include the following actions:

1. follow-up of previously agreed action
2. verify actual progress of Works against planned or scheduled
3. inspect the quality of Works (do the Works comply with the quality requirements in the technical specifications?)
4. check deployment of staff and labor in accordance with the contract
5. inspect the contractor's materials and equipment (does the contractor have all necessary equipment and construction materials to complete the Works per the specifications and on time?)
6. confirm health and safety with regard not only to the contractor's personnel, but also to public safety (have all necessary health and safety measures been implemented?)
7. monitor environmental issues (is the contractor's Environmental Management Plan being enforced appropriately?)
8. investigate the adequacy of measures in place to manage risks of gender-based violence and SEA/SH
9. is the contractor's code of conduct being implemented effectively?
10. are permits in place and is documentation up to date?

Contract Manager's Documents

The Contract Manager is expected to have a set of desk control documents available for inspection. At a minimum, these should include:

1. measurement logs for admeasurement contracts
2. activity reports providing daily, weekly, monthly accounts of activities in tabular format describing quantities of work done, number of staff and equipment involved, consumption of materials, testing and samples, ES reporting etc. The reports should mention any specific events, incidents, weather conditions etc.
3. issues log which records all issues that have occurred during the execution of the Works, with appropriate descriptions and the issues, date, cause, consequence/s, remedial measures taken, responsible party, status of remediation etc.
4. variation orders for all variations showing the justification for the changes in quantities, prices and completion times
5. communication records detailing all relevant communications with the contractor and any third party
6. inspection and control logbook listing records of technical inspections, lab tests, etc. which are either conducted by or witnessed by the Engineer as well as any inspections, audits and controls performed by any other relevant party (for example, Employer, environmental agency, financial control, local authorities etc.).

Design and Build Contracts

While Employers are used to the traditional construction contracts for works designed by, or under the responsibility of the Employer, (for example, contracts based on the FIDIC Red Book), managing integrated contract delivery approaches such as design and build (D&B) for example, contract based on the FIDIC Yellow Book, can pose some challenges.

Note that D&B contracts are different from EPC or Turnkey contracts (for example, contracts based on the FIDIC Silver Book) in terms of responsibilities and risks of the contractor. Employers should not refer to EPC or Turnkey unless using the FIDIC Silver Book to avoid any misunderstandings.

Success Factors

Employers need to be mindful of the following factors when managing D&B type contracts. These may demand a cultural shift away from the more traditional construction contract approaches.:

1. D&B requires a much higher level of technical capacity from the contractor compared to the traditional approach, hence more stringent qualification requirements.
2. D&B requires the Employer to develop definitive, functional driven performance criteria as opposed to detailed design and drawings.

3. D&B is a scope driven effort.
4. The contractor owns the design.
5. Establish the contract management team early and keep it together.
6. Designers have been doing design for Employers and constructors have been doing construction of the designed Works in the traditional approach whereas this approach demands a construction team integrated with design professionals.

Performance Based on Functional Criteria

It is helpful to realize that in traditional construction contracts, requirements are communicated to the contractor through complete drawings and specifications. This is sometimes referred to as conformance based requirements. In contrast, in D&B contracts the Employer communicates its requirements through a description of the performance or functional criteria. This is sometimes referred to as performance based requirements. The contractor develops the design based on the latter.

Design Review

In a D&B approach, because the contractor owns the design, the Employer's or Contract Manager's design review, unless otherwise specified, is normally to verify that the design solution/s comply with the performance criteria. The main reason for this shift is the need to ensure that the design liability remains with the contractor.

Initial Design Meeting

It may not be possible, in the request for proposals for the Employer to elaborate every potential preference or expectation that it may have in a complex D&B contract. Therefore, after the contract is awarded, it is good practice to have an initial design meeting with the contractor. An outline for the agenda for such a meeting may include:

1. breakdown of the design scope into specific features of tasks (that can be designed, reviewed, approved and constructed in that order) and identify features where the contractor may have design flexibility
2. identify the features that have limited or no option for variance during the design process so that there is clear understanding from the outset
3. identify any design criteria that may have been incorporated by reference in the contract
4. identify any features whose design is contractually open to interpretation
5. discuss the list of preliminary design solutions for all features of Works in scope
6. discuss the Employer's or Contract Manager's review process of design submittals and establish a clear communication system

7. develop a system whereby a difference of professional judgment that is not clearly covered by contract language can be expeditiously resolved.

Contract Administration

Traditional design and construction contract administration is based on the administration of the design consultants, and their deliverables, and administration of the construction contractor. In a D&B contract, both the design and construction are the responsibility of the contractor.

The cultural shift from traditional to a D&B contract administration demands that both the Employer and the contractor create a contract administration system that supports the development of design and is responsive to the D&B contract. The Employer or Contract Manager needs to be aware of the time element in D&B administration and the fact that the contractor expects the Employer or Contract Manager to collaborate by expediting design reviews. Given the significance of close coordination during the design phase, it is recommended to require that the contractor has an experienced design professional to manage the internal and external coordination during the design phase.

If the Employer has separate design and construction administration systems, they both need to be integrated and operating throughout the delivery of a D&B contract.

Payments

The scope of a D&B contract is defined by a set of performance criteria to be completed within a specified period. This normally requires the contractor to offer a lump sum price (broken down into activities to facilitate payments). As cost and time are already set out in the contract, quality is constrained by both cost and schedule. As a result, at the outset of the contract, it is important that both the contractor and the Employer have a clear understanding and agreement on the requirements for quality.

Constructability

One of the stated benefits of a D&B approach is improved constructability due to significant contractor's input during the design phase. A D&B contract design can be thought to be under continuous constructability review. To maximize the inherent benefits, the D&B contract administration system must play an enabling role to facilitate this critical process.

Progress Payments

Employers are normally used to unit price contracts where measured quantities of unit price items are used to compute progress payments and where the risk for quantity overrun usually lies with the Employer. The transition to a lump sum D&B contract should be carefully managed to ensure that the contracting parties understand the financial implications.

Prior to the first progress payment, in order to facilitate payment, the parties may agree on a schedule of values, such as, breakdown of each lump-sum item in the contract into component parts

of design deliverables or construction Works for which progress payments may be requested. This essentially requires the D&B contractor to assign a value for each activity in its program. Such a schedule of values should include sufficient details to facilitate continued evaluation of payment application and progress reports. Upon review and approval by the Employer or Contract Manager, this allows the development of a periodic payment estimate to be made for those activities that were underway during the pay period. This helps the Employer or Contract Manager to ensure that the contractor's financial progress reasonably reflects the physical progress. It also ensures that the contractor continues to get progress payments that closely follow the physical activities.

Contractor's Claims in Construction Contracts

The FIDIC conditions of contract define a claim to be "a request or assertion by one contracting party to the other party for an entitlement or relief under any clause of the conditions of contract or otherwise in connection with, or arising out of, the contract or the execution of the Works."

Through good contract management practices, the Employer and Contract Manager are expected to take measures to avoid situations that lead to contractor's claims. Some of these measures include:

1. having a thorough understanding of the contract documents and how the contract is to be implemented
2. ensuring timely payment for successful delivery
3. ensure that there is a proper definition of scope of works, appropriate specifications and timely provision of design and drawings (if it is the responsibility of the Employer)
4. provide timely possession of site
5. ensure timely responses to contractor's notices.

Role of Contract Manager

The Contract Manager (Engineer, Employer's Representative etc.) has a key role in making a fair determination of the matter or claim, in accordance with the contract, with due regard to all relevant circumstances. "Agreement or Determination" is regulated by, for example, sub-clause 3.7 of "FIDIC: Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer" (Red book), (Second edition 2017, reprinted 2022 with amendments), which requires the Engineer, when carrying out its duties under the sub-clause to act neutrally between the contracting parties and shall not be deemed to act for the Employer. Similarly, this matter is treated in, for example, sub-clause 3.5, "Agreement or Determination" of "FIDIC: Conditions of Contract for EPC or Turnkey Projects" (Silver book) (Second edition 2017, reprinted 2022 with amendments), which states

to the effect that when carrying out its duties under that sub-clause, the Employer's Representative shall not be deemed to act for the Employer.

Requirements for Contractor's Claims

In general, the contract documents define the primary relationship between the parties and stipulate the circumstances that form the basis of claims. Claims should include statements of the contractual breach, or any other legal basis sought to be relied upon.

Timely Notice and Submission

Timely notice and timely submission of a claim by the contractor are essential as otherwise delayed notice and submission could have consequences based on the contract.

Proof of Entitlement and Damages

The Contract Manager is expected, as much as possible, to ensure that the contractor's claim is substantiated by an analysis of costs and supporting documentary evidence such as invoices, reports and records etc.

Assessment of Claim

The Contract Manager assesses the claim to ensure that the contractor has demonstrated:

1. that it is entitled under the contract (contractually justified) to claim for the cost/time
2. that it has indeed incurred the additional cost/time, and the extent of the claimed cost/time is reasonable
3. that there is a cause and effect between the Employer's default and the damages incurred by the contractor.

Claims Due to Delays in Execution

Determination of Time Extension

Claims assessment must be based on the provisions of the contract and normally carried out by professional consulting engineers (Engineer or Project Manager). The discussion below on some of the aspects for consideration does not replace treatment of claims in accordance with the contract.

Granting a time extension to a contractor has implications both for the implementation schedule and contract price.

The Contract Manager should ensure that the contractor provides sufficient details including an updated contract schedule and impact schedule (of delay events) clearly justifying the requested time extension.

Determination of Costs

The Contract Manager should carefully check the determination of any costs associated with the claimed delay. Some examples include:

- 1. Additional labor or equipment costs:** When a contract is delayed due to a matter which is the Employer's responsibility, the contractor may have claimed for additional labor or equipment. When claiming for labor or idle equipment, the contractor needs to normally show that the labor or equipment could not have been discharged or used in other activities without incurring even more costs or risking unavailability for the contract when needed.
- 2. Site and home office overhead costs:** While direct cost of the contract may reduce during the delay period due to lesser use of consumables, the site and home office overhead costs (normally fixed) continue to accrue during the delay period. A certain portion of the overhead cost may therefore not be absorbed or may be extended because of the delay. The Contract Manager should ensure that the contractor's claim for unabsorbed overhead costs is reasonably demonstrated.
- 3. Profit:** In addition to recovering overhead, the contractor may claim for profit on the additional costs. The Contract Manager should verify the contract to check whether the relevant contractual provision allows cost compensation only or cost + profit. Unless the profit % is already specified in the contract, the Contract Manager should ensure that the claimed profit rate is reasonable.

Assessment of Contractor's Claimed Amounts

Reasonable Cost

The Contract Manager is expected to check that, when applicable, the contractor's claims are based on contractual unit rates for equivalent or similar items. When no equivalent contractual unit prices are applicable (example a new item of work), the quantification would need to be based on actual historical costs recorded and maintained as the costs incurred on the contractor's books. When this is not applicable, market rates may be used as a proxy.

Analysis of Contractor's Billing

In a change order situation, the first determination that the Contract Manager needs to make is to check whether the claimed extra work is not an item which is contractually in-scope and that has been improperly characterized as an extra by the contractor. In such a situation, it is important to understand the nature of the work claimed by the contractor as extra work. Once this is established, the claimed costs should be checked to be related to the extra work and reasonable as mentioned above.

Analysis of Labor, Material and Equipment Costs

A contractor normally provides a breakdown of its claimed amount in terms of labor, material and equipment.

There are different methods and approaches in the industry to determine ownership and operating costs such as, capital recovery by a contractor. The Contract Manager may refer to the most common methods of calculating ownership and operating costs.

The Contract Manager should assess that the method applied is reasonable and appropriate. For relatively complex claims, it would be helpful to seek the support of an experienced claims expert, as there is often a disagreement between the contractor and the Contract Manager as to which costs are to be covered and how they are calculated.

Overhead Costs

Construction claims by their nature may include, as a component, a demand for overhead costs. Both field overhead, and home office overhead, may be elements of a claim incurred because of a delay

1. **Field overhead:** are direct contract costs such as power, water, communications which may be easily identifiable.
2. **Home office costs:** The concept of unabsorbed overhead is based on the assumption that during a delay period the cash flow that would have been generated by the delayed contract is no longer available. Thus, home office overhead costs, which in general are fixed, are absorbed by the contractor's other activities. The allocable portion of home office overhead costs attributable to delays is however not so straight forward. Generally, as part of such an assessment, the contractor is expected to show that it was imprudent or impractical for a reasonable contractor to take other work during the delay period given the facts and circumstances.

Construction Contracts Taking-Over

Once the Works or Plant are substantially completed in accordance with the contract, except for any minor outstanding work and defects, (as listed in the Taking-Over Certificate), which will not substantially affect the safe use of the Works or Plant, the taking-Over Certificate or completion certificate is issued and the Employer takes over the Works (in whole or in part, as applicable). For Plant, for example, this is followed by commissioning (including functional guarantee tests) and the issuance of an operational acceptance certificate.

At completion, depending on the contract, the responsibility for care and custody and the risk of loss normally passes to the Employer and the defect liability period or defects notification period commences. Prior to taking-over by the Employer, the Contract Manager is expected to verify substantial performance by the contractor including the following:

1. required tests successfully completed and the Works or Plant are substantially completed as specified
2. any ES design considerations have been delivered
3. contractual requirements have been met by the contracting parties

4. contractually required documentation (such as operation and maintenance manuals, as-built drawings etc.) have been handed over by the contractor and are acceptable
5. equipment warranties, and documentation for any installed equipment are provided
6. all surfaces are reinstated (unless for parts considered minor and listed in the Taking-Over Certificate to be carried out by the contractor)
7. ancillary features such as borrow pits, quarries, disposal sites are restored to according to permits, consents, ESMP or the Contract Manager's instructions
8. the site is clean of debris and any required reinstatement
9. any change orders are reviewed to ensure that these have been completed
10. demobilization (equipment, personnel etc.) from the work site is done in an orderly manner.

Defect Liability Period (Defects Notification Period)

Any outstanding work at the time of completion or handing over and defects due to design, workmanship etc. as specified in the contract is remedied by the contractor at its own cost and risk.

The defect liability period or defects notification period is important as it is the opportunity to have any outstanding Works (that did not affect substantial completion) completed and to have the contractor repair, replace or make good any defects that may become apparent during the defect liability period or defects notification period.

The Employer should ensure that appropriately trained staff operate or maintain the Works or facilities consistent with any Operations Manual provided by the contractor as, depending on the contract, improper operation or maintenance of the Works or facilities (not attributable to matters for which the contractor is responsible) by the Employer or operation of the Works or facilities outside the specifications provided in the contract may not be covered under the defect liability obligations.

Dispute Resolution Mechanism

The Bank's standard contracts, for example for Works and Plant, include a detailed dispute resolution mechanism, including dispute review boards, based on the international good practice. The corresponding contract specific provisions must be used, made effective at contract's inception and effectively maintained throughout contract implementation.

The dispute review board must be appointed at the very beginning of contract implementation and must be maintained as intended in the contract. It has been observed that a dispute review board which is set up or called for late in contract implementation will face challenges in getting familiar with the details of contract background and in issuing advice and/or decisions when required to do so. Constituting such a board (ad hoc) when a dispute arises is also a challenge. Establishing ad-hoc dispute boards is therefore not supported by contracts in the applicable Bank's SPDs.

Special Considerations: Managing ES Risks in Infrastructure Contracts

Background

Ensuring that Environmental and Social (ES) requirements are implemented in infrastructure contracts (Works or Plant) , requires professionals with appropriate skills to be part of the teams managing and executing the contract. Such professionals may be required on a part time or full-time basis, depending on the nature of the ES risks and impacts and the role they are required to perform.

Along with the ES requirements identified in the infrastructure contracts, the need for specialist ES skills or experience is required during the preparation of the Procurement Documents.

This section describes the responsibilities of the ES specialists (as part of Contract Manager, contractor, Employer) during contract start-up or mobilization, contract implementation and contract close-out (taking-over). It describes not only the responsibilities according to the role or organization, but also, where appropriate, the interface that these roles may have with each other, and with other bodies such as regulatory authorities (with the right to inspect and monitor construction activities regarding ES performance).

This section is intended only to highlight a few aspects that may be relevant to contract management and does not in any way attempt to present or summarize applicable Bank's policies and frameworks. For more detailed information on appropriate treatment of ES aspects, refer to the Bank's [Environmental and Social Policies](#).

Relationships and Responsibilities

To understand fully their responsibilities, ES specialists need to appreciate the broader responsibilities of the role that they are performing (for example, Contract Manager, contractor or Employer), and the soft and hard skills that these roles require. A description of the relationships between these roles, their areas of responsibility and the skills required to perform the role are provided in “The Fundamentals” and “Managing Relationships” sections earlier in this Guidance.

In addition, earlier sections of this Guidance set out where ES interacts with broader contract management actions (for example in the Contract Management Plan preparation,) and it is recommended that this section is not read in isolation of the whole Guidance.

Overview of the Roles

Employer's ES Specialists

The Employer should monitor the Contract Managers' performance in ensuring that the contractor (including any sub-contractors) delivers their ES contractual requirements through mobilization, construction and demobilization.

The Employer should assess the Contract Manager's performance through review of the regular reports (usually monthly) on the contractor's ES performance required by the Contract Manager and determine how the contractor is performing on site (Employer site visits), and how effective the project meetings are in dealing with ES issues.

In addition to the regular reporting there should be a requirement for the Employer to be immediately notified of any serious ES event (for example, death on the site). How the Contract Manager responds is an indicator of the Contract Manager's performance. Timely reporting (as set out in the applicable contracts) of ES performance and outcomes enables the Employer to identify opportunities for improvement, address poor performance issues, and take contractual remedial action/s, as appropriate.

In addition to reviewing the written reports, it is essential to have regular meetings with the Contract Manager to review ES performance as against the contractual requirements and identify any emerging risks or issues.

Contract Manager's ES Specialists

The Contract Manager is responsible for supervising or monitoring that the contractor delivers the ES requirements of the contract.

The Contract Manager's ES specialists need to be aware of the duties, roles, delegation and authority assigned to them and be fully conversant with the relevant provisions of the contract including the applicable ES requirements and specifications. As an example, the Contract Manager's ES specialists should review any contract change proposals to ensure that the proposal has given adequate attention to ES aspects.

In carrying out their function, the Contract Manager's ES specialists should also be mindful of the roles of other key Contract Manager's staff (such as the resident engineer) and respect the relevant communications protocol of the contract which describes who is authorized to issue communications and other requirements.

Contractor's ES Specialists

The contractor's ES specialists should advise the contractor on the measures necessary to ensure compliance with the Works or Employer's ES requirements during execution of the infrastructure contract.

The contractor's ES specialists should serve as the "eyes and ears" on the site to support and ensure that the contractor's personnel (including sub-contractors) are all complying with the

contractual ES obligations. They therefore need to maintain professional relationships with all of the contractor's personnel.

The contractor's ES specialists should ensure that the necessary equipment, material and other resources are provided, to fulfill the requirements such as spill kits, drip trays, segregated waste facilities, bunded storage, covered storage, vehicle washing, concrete washout pits, etc. to deliver the specified environmental outcomes. They should also ensure that the necessary equipment, material and other resources are provided to ensure effective health and safety on the site, such as flashback protectors for welding, welding masks, hats, gloves, overalls, boots, ear defenders, eye protection, speed guns, noise meters, traffic control, barricade tape, signage and fencing.

Independent ES Specialists

Independent ES specialists may be employed as third-party monitors in order to advise the Bank and/or the Employer on whether the project's ES requirements are being implemented as required. Although there is no direct contractual relationship between them, the contractor's and Contract Manager's ES specialists should provide support to the third-party monitor as necessary for the third-party monitor to undertake their duties. Further information is provided in the Good [Practice Note](#), Environment & Social Framework for IPF Operations - Third-Party Monitoring.

Regulatory Authority

Contracting parties need to recognize that in many jurisdictions there are regulatory authorities whose function is dictated by law. These authorities may undertake periodic inspections to determine whether activities are being carried out in compliance with applicable laws and regulations and/or permit conditions. The purpose is normally to uphold the law and not to monitor whether contractual requirements and obligations are being met. These authorities may have the power to investigate breaches of the law and take appropriate measures such as invoking judicial proceedings, issuing instructions to stop the work, issuing fines or require certain actions be taken. It is important that the contracting parties cooperate with them.

Contractor Mobilization and Contract Initiation

Following contract award and prior to commencement of infrastructure contracts, there are conditions to be met as discussed in the contract start-up section of this Guidance. The commencement of an infrastructure contract such as Works normally begins with a mobilization or preconstruction phase during which the site is prepared for construction.

The mobilization period should be carefully managed by the contracting parties and given its significance to the successful execution of a contract, the contract mobilization may itself require a plan. See example template in Annex 4 of this Guidance.

The mobilization or pre-construction phase can include major activities such as land clearance, excavation, building access roads to the site, work site establishment and construction of contractor's personnel accommodations. This phase is often overlooked in terms of ES impacts, and therefore it is

critical that the correct documents, training, procedures, and systems are in place to ensure that all ES impacts are identified and managed appropriately at this time.

Employers should not require contractors to begin work until the Contract Manager is satisfied that appropriate measures are in place to address ES risks and impacts. The appropriate measures should be agreed during a pre-mobilization meeting. At a minimum, the contractor shall apply the Management Strategies and Implementation Plans and ES Code of Conduct, submitted as part of the bid or proposal and agreed as part of the contract.

During the contractor mobilization and contract initiation phase the following should be undertaken.

Hold Pre-mobilization Meeting

The Employer should ensure that ES requirements are discussed during a pre-mobilization meeting so that all parties have a common understanding and are aware of their obligations. During the meeting, the Contract Manager should agree with the contractor the documents and information that are needed prior to any activity, to demonstrate effective management of the ES risks and impacts, such as method statements and safe systems of work. The meeting should involve not only ES specialists but also the responsible managers of the Employer, contractor, Contract Manager and any other relevant party.

Review and Develop Management Strategies and Implementation Plans (MSIPs)

The contractor should be required by the Contract Manager to develop any additional MSIPs, to those agreed at contract award, to ensure that all ES risks and impacts likely to arise during mobilization will be effectively managed. These should be subject to the prior approval of the Contract Manager. If the health and safety management plan is not ready at mobilization, an MSIP describing how the mobilization activities would be undertaken safely should be prepared.

The contractor should be required to submit, on a continuing basis through mobilization and into implementation, for the Contract Manager's prior approval, further MSIPs as needed to supplement those already agreed to manage the ES risks and impacts of ongoing activities.

Monitor Contractor's and Contract Manager's Code of Conduct

The Employer should monitor to ensure that the contractor's and Contract Manager's codes of conduct, agreed in the respective contracts, are in place and are being implemented. The contractor and the Contract Manager should keep in mind that compliance with the codes of conduct starts from the day the contract is signed.

Confirm ES Induction Proposals

The Employer shall ensure that the contractor and the Contract Manager provide ES awareness and induction to all individuals authorized to be on site.

The content of the induction should describe the contract's ES impacts and the activities to be undertaken to manage risks, describe the various duties and responsibilities of the personnel, and ensure understanding of the ES code of conduct, stakeholder relationships, and security arrangements, as a minimum. Furthermore, relevant personnel of all parties involved in the execution and management of the contract shall be made aware of the worker and public grievance mechanisms and how to access them, and contractors should develop and implement appropriate (to the contract) SEA/SH awareness training for staff at all levels.

Some further considerations in developing an ES induction program are:

1. **coverage:** to include Employer's personnel, Contract Manager's personnel, contractor's personnel, visitors and other individuals authorized to be on site
2. **system:** describe the system that will be used to ensure that the contractor can identify the personnel on site that have been inducted (card site access system, displayed ID card, helmet sticker etc.)
3. **frequency:** how often will the induction be repeated (recommended to be conducted at least once a year) and how it will be tracked (what records will be kept)?

Review ES Training Plans

During the mobilization phase, the contractor should identify the required technical training required during the execution of the contract and prepare an appropriate plan for the timely delivery of that training. The contractor should ensure that personnel receive technical training in ES matters adequate to perform their duties. This may take the form of, for example, specialized training courses in remedial actions such as hazardous materials management and controls, or toolbox talks on safe systems of work. The contractor should keep records of the training provided.

The Contract Manager should review the training plans and provide comments as necessary to ensure the training is adequate and appropriate for the activities being undertaken.

Contract Implementation

During contract implementation, the ES specialists' primary focus is to ensure that the contractual ES provisions are continuously adhered to. This will involve the timely preparation and/or review of documentation such as contractor's plans and procedures, undertaking of inspection, supervision, and/or audit, attending progress meetings, reporting and resolving issues that may occur.

Review and Develop MSIPs and C-ESMP

The MSIPs agreed as part of the contract and during mobilization should continue to be reviewed, updated and supplemented during implementation to ensure adequate control of ES risks and impacts. Collectively the MSIPs comprise the Contractor's Environmental and Social Management Plan (C-ESMP). As stated in the conditions of contract, the C-ESMP should be approved by the Contract Manager prior to the commencement of construction activities (for example, excavation,

earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture).

The approved C-ESMP (which may comprise a series of MSIPs) should be reviewed periodically and updated in a timely manner by the contractor to ensure that it contains measures appropriate to the activities being undertaken throughout contract implementation. The updates should be subject to prior approval by the Contract Manager.

Review and Approve Health and Safety Management Plan

The contractor's health and safety manual should be reviewed and approved by the Contract Manager prior to the start of works. The health and safety manual should be updated by the contractor as necessary to reflect the needs of the Works as they are being undertaken.

The health and safety manual should describe the activities to be undertaken and identify the impacts and risks associated with those activities. The manual should describe any protective measures that would be required to manage the potential hazards and establish safe systems of work.

For each activity, the contractor should prepare and submit, for approval of the Contract Manager, a method statement describing the safe system of work that will be applied. In preparing the method statement, the contractor should draw from the information contained in the health and safety manual. For example, the health and safety manual should identify the risk of collapse when excavating on site, and the safe system of work described in the method statement should set out the controls of access to the excavation, the use of fencing at an appropriate distance from the top, shoring up the sides of the excavation etc.

Monitor the Contractor's and Contract Manager's Code of Conduct during Implementation

The Employer should ensure that the Contract Manager implements and monitors compliance with its code of conduct effectively.

In monitoring implementation, the Employer may try to seek evidence of the following:

1. Is the code disseminated as envisaged in the contract? Is it easily accessible to the community and project affected people?
2. Is compliance with the code a condition of employment of the Contract Manager's staff?
3. What evidence is there of the Contract Manager's senior team leading by example?
4. Does the Contract Manager provide training and ongoing support to its staff? Or provide information and advice to clarify any aspects of the code?
5. Are training records maintained?
6. Do the Contract Manager's staff show confidence to challenge others when a breach of the code is suspected?

7. How are internal and external complaints handled? Are they taken seriously?
8. How is the Contract Manager perceived by the local communities?

The Contract Manager should, in turn, ensure that the contractor implements and monitors the contractor's codes of conduct effectively. In doing so, the Contract Manager should seek answers to the questions as above as applied to the contractor.

Evidence on the implementation of the code of conduct could be found in progress reports, behaviors exhibited in progress meetings, discussions with representative personnel on site, through consultations with the local communities and the worker and community grievance redress mechanisms. In addition, the timeliness of the enforcement by the contractor or Contract Manager of disciplinary actions for violations of the code will indicate how effectively the code is implemented.

The Employer needs to be mindful of the Contract Manager's and contractor's code of conduct and not take any action or behavior that may undermine it. They should lead by example.

Monitor in Accordance with the Contract ES Requirements

During progress review meetings, the Employer should ask relevant questions and seek evidence on how the activities are being implemented in accordance with the contract's ES requirements. In addition, during site visits, the Employer should consider whether site activities are in accordance with the contract's ES requirements. This may require, for example, interviewing site health and safety officials, site security officials and representatives of the local communities to get their perspective on the operation of site activities.

Contract Manager's Inspection and Supervision

The inspection of ES aspects should be integrated into the broader site visit process as described in the section "Special Considerations: Works and Plant contracts." The Contract Manager's ES specialists should follow a phased approach to inspections as described below:

1. **Preparation:** in preparing for the inspection, the ES requirements as set out in the contract, any permits and the regulatory framework should be reviewed. It is good practice to develop a list of the issues to be checked during the site visit. An understanding of the activities being carried out by the contractor should be obtained, for example, through reference to the work program, to assist in the selection of areas subject to the site visit.
2. **Document review:** An important part of the inspection is to confirm that the contractor's documentation is in place and up to date. This should be done during a meeting with relevant contractor's personnel prior to undertaking the site visit, as the contractor's documentation may identify issues to be validated during site visit. As a minimum, the status of the following contractor's documentation should be ascertained:
 - a. MSIP/ C-ESMP
 - b. code of conduct

- c. HSMP or method statements
 - d. accident records
 - e. worker labor records
 - f. progress reports
 - g. induction and training records
 - h. worker and community grievance.
3. **Site visit:** For large, complex contracts, a representative sample of the activities may be visited during the inspection. Selection of the areas to be visited should be informed by the activities being undertaken, their potential ES impacts, locations of sensitive or important environmental and/or social features, and the need to validate any aspects of the contractor's documentation. The issues to be considered during the site visits may include:
- a. presence of safety features and equipment such as traffic signs and signals, protective fencing, machine guards, etc.
 - b. labor facilities such as provision of drinking water and washroom facilities
 - c. evidence of Good International Industry Practice in relation to, for example:
 - i. storage and handling of hazardous materials
 - ii. concrete wash-out facilities
 - iii. spill kits and water pollution prevention measures
 - d. site security arrangements
 - e. worker behavior.
4. **Corrective actions:** At the end of the site visit, an action plan should be agreed with the contractor to take any needed corrective actions. The action plan should clearly set out what the contractor should do and by when, and progress in resolving the actions should be checked by the Contract Manager on a timely basis. If necessary, further remedies to rectify non-compliances may be applied, as discussed below.

Inspections should be documented, and records retained in contract files (minimum information to be recorded includes date and time, location, activity inspected, inspection observations and relevant data, corrective actions, if any, inspection team's name, signature and date).

Rectify Contractor Non-compliance

The Contract Manager should bring to the attention of the contractor, in accordance with relevant provisions of the contract, non-compliances identified during contract execution. The instruction should

refer to the relevant contract provision that has been breached, clearly stating what is needed to rectify it, by when it needs to be rectified and the contractual consequences if the contractor does not comply.

The contractual provisions set out how remedies are to be applied by the Contract Manager in the event of non-compliance, including with respect to the following:

1. removal of personnel from site (for example, for breach of Code of Conduct, or for repeated dangerous working practices)
2. withholding payments (for example for not rectifying a non-compliance in the specified time scale)
3. getting others to rectify the works at the contractor's expense (for example following repeated discussions and warnings regarding pollution from asphalt plant)
4. suspension of works (for example at a quarry or borrow pit until the operation can be made safe)
5. performance security (for repeated non-compliances and a lack of willingness to effectively address the deficiencies)
6. termination.

For further detail see the section on Contractual Remedies.

Managing SEA/SH Risks

Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) risks should be closely monitored, particularly for infrastructure contracts such as Works or Plant.

If the assessed SEA/SH risk is high, the FIDIC-based SPDs for large works (admeasurement, D&B, DBO, EPC) include an SEA/SH contract disqualification mechanism for non-compliance with SEA/SH requirements. For the mechanism to operate effectively, the Contract Manager should monitor the following:

1. the code of conduct is in place and implemented in accordance with the contract
2. constitution of an appropriately qualified DAAB or DAB in accordance with the contract
3. the Employer conducts an SEA/SH orientation conference, attended by the contractor, its sub-contractors, the Contract Manager, the DAAB or DAB and all other relevant persons, soon after the constitution of the DAAB or DAB and prior to the commencement of any physical work. Ensure that the conference provides a common understanding of the SEA/SH contractual requirements and remedies
4. the contractor puts in place an effective mechanism (SEA/SH Response Mechanism), in accordance with the contract, for receiving and promptly addressing allegations of SEA /SH from the contractor's or Employer's Personnel or any other person including third parties

5. the contractor's Personnel are informed of the SEA/SH Response Mechanism at the time of engagement for the contract and that information about the SEA/SH Response Mechanism is displayed, in languages comprehensible to the contractor's personnel, Employer's personnel, and the affected communities, and placed in locations easily accessible to them
6. the contractor provides appropriate training and/or sensitization to its personnel on prevention and prohibition of SEA/SH
7. the contractor requires its sub-contractors to comply with the contract SEA/SH obligations, and accept that the Bank may disqualify the sub-contractor from being awarded a Bank-financed contract for a period of two years if the sub-contractor is determined to have failed to comply with its SEA/SH obligations
8. the agenda and reports of the DAAB or DAB meetings with the contracting parties and/or site visits include review of the contractor's compliance with the SEA/SH obligations and the Contract Manager's performance in monitoring the contractor's SEA/SH obligations
9. treatment of SEA/SH referrals in accordance with the contract.

The Employer immediately notifies the Bank of the DAAB's decision on a SEA/SH Referral, any notification received on the commencement of Emergency Arbitration, and the Emergency Arbitrator Order, if any.

Contract Taking-over ES Aspects

As mentioned in "Special Considerations: Works and Plant Contracts," prior to taking-over by the Employer, the Contract Manager should ensure that substantial performance has been achieved by the contractor. Once the Contract Manager is satisfied, it issues the taking-over certificate and the Employer takes-over the Works. After taking-over the Works, the Employer becomes responsible for the care and custody of the Works. The consequences of taking-over Works that are deficient or prove unsafe have significant ramifications for the Employer, including with respect to reputational and financial risks.

In terms of ES, the Contract Manager's ES team therefore need to ensure that prior to issuing the taking-over certificate that, for example:

1. the ES design has been fully delivered
2. there are no potential legacy issues, for example, which may substantially affect the safety and stability of the site, the site is clean of debris and all surfaces are reinstated (unless for parts considered minor and listed in the Taking-Over Certificate tasks to be carried out by the contractor)
3. ancillary features such as borrow pits, quarries, disposal sites are restored according to permits, consents, C-ESMP or the Contract Manager's instructions
4. the contractor does not negatively impact the environment and the communities while demobilizing (equipment, personnel etc.) from the work site.

Defect Liability Period – ES Aspects

As mentioned under “Special Considerations: Works and Plant Contracts,” the defect liability period is also critical from the ES point of view.

The Contract Manager’s and Employer’s ES specialists:

1. should inspect the site to identify any negative impacts to the ES aspects that may arise during this period attributable to the contractor
2. monitor to ensure that any dismantling or repair work carried out by the contractor on site does not have a negative ES impact
3. monitor that the contractor’s staff involved in any dismantling, repair, reinstallation, retesting etc. observe the code of conduct.

Upon the end of the defect liability period and issuance of performance certificate, the Employer’s and Contract Manager’s ES team should ensure that the contractor:

1. removes any of its remaining equipment, surplus material, wreckage, rubbish and temporary Works from the site
2. reinstates all parts of the site which were affected by the contractor’s activities during the execution of the Works and are not occupied by the permanent Works
3. leaves the site and the works in the condition stated in the contract specification (if not stated, in a clean and safe condition).

Special Considerations: Goods Contracts

Supply Chain Management

A key consideration for supply of Goods is management of the whole supply chain from manufacturing, purchase, delivery to named place of destination or destination, to end users. This may include the following activities:

1. an acceptable quality assurance system is put in place (such as factory test witnessing, pre-shipment inspection, acceptance tests)
2. formal acceptance checks of the Goods
3. information is provided to the Purchaser or Contract Manager's staff on the warranty provisions (duration, coverage, service level agreement, contact information of any service provider etc.) so that they know what to do in case of defects or malfunction
4. clear understanding of the logistics (transport, insurance, incidental services) to deliver the Goods to the end users
5. warehousing facilities at the various points in the supply chain, including arrangements for example, space, climate control, electricity
6. efficient inventory control
7. measures to avoid the risk of obsolescence and pilferage
8. training of end users on the use of the Goods, if applicable
9. end users' satisfaction survey.

For Goods that have a limited shelf life (such as medicines and pharmaceuticals), the Purchaser must take measures to maximize the products' shelf life. This may include an action plan which details the measures to be taken. Such an action plan can be included in the CMP. Factors to be addressed in the action plan may include:

1. arrangements for recording dates of receipt of Goods and dates of expiry
2. arrangements to ensure "first-in first-out" distribution of Goods to reduce the risk of disposing of expired products

3. developing a system to manage the Goods by consulting the product specifications and relevant guidelines on storage requirements for example, storage space, cleanliness, cold storage, climate control (temperature, humidity), pest, water and dirt damage protection
4. implementing safe handling measure and ensure appropriate safety equipment is used
5. planning regular quality checks to ensure that the Goods are not deteriorating
6. providing a means for the Goods to be readily available for distribution to the end users.

Figure XIX illustrates issues that can arise through poor supply chain management

FIGURE XIX Case Study: Poor Supply Chain Management

Situation A:

A Purchaser procured transformers for indoor installation which were delivered to its warehouse. The Purchaser accepted the transformers in accordance with the contract. According to the manufacturer instructions, the transformers are to be stored in a closed space.

The Purchaser had planned to use its own installation team to install the transformers. However, the Purchaser's installation team was still occupied with some earlier work and was not able to start this work before 12 months. The Purchaser's indoor storage area was full of other items and the Purchaser was obliged to leave the transformers outdoors for almost a year. The location was in the tropics with excessive humidity and rainfall. The outdoor area did not have a good drainage system. The Purchaser did not take the necessary steps to prevent water condensation forming in the transformer accessories and parts that were delivered separately. There was no protection against corrosion. As a result, a good number of the transformers were damaged and not usable.

Situation B:

A Purchaser awarded a contract for the procurement of vehicles at a price of US\$ 450,000 based on CIP (Incoterms). The Purchaser received the shipping documents from the supplier before arrival of the Goods, so the supplier was not responsible for any consequent expenses. A delay in the clearance of the vehicles from the port, led to demurrage charges amounting to US\$130,000. Such charges were determined to be ineligible for Bank-financing.

Lesson learned:

1. delivery of Goods to the warehouse is not an end by itself. Plan for the whole of the supply chain to ensure the Goods continue to be in working order at the time of delivery to the end user
2. prepare appropriate storage areas and facilities prior to delivery of Goods
3. assess capacity and logistics in advance to inform the procurement and contracting strategy for example, if there is no appropriate facility available to store the Goods, purchase them using supply and installation by the supplier
4. Ensure that the appropriate arrangements are in place for timely clearances.

Incoterms

Incoterms (known as international commercial terms) are sets of commercial terms published by the International Chamber of Commerce (ICC). The terms interpret commonly used foreign trade and deal with the transfer of title and risk in various contracting scenarios. For complete information on Incoterms refer to the International Chamber of Commerce [Incoterm Rules](#).

For relevant procurements (such as Goods), the Bank's SPDs specify the appropriate Incoterms that apply. The Incoterms that are commonly used in Bank financed contracts are CIP and EXW. The Purchaser or Contract Manager should be familiar with the applicable Incoterms. Figure XX provides a case study that illustrates issues on misconception of the appropriate Incoterm.

FIGURE XX Case Study: Misconception on Applicable Incoterm

Situation:

The contract for supply of Goods specified CIP (named place of destination). The delivery period was stated as 180 days following the date of effectiveness of the contract. The contract became effective, and the Purchaser instructed the supplier that it expected the Goods to arrive in the named place of destination within the 180 days following the date of effectiveness. The supplier responded that as per the applicable Incoterm (CIP, in this case), its obligation is to deliver to the carrier within the 180 days and not to provide the Goods at the named place of destination within that period. The named place of destination is not for the purpose of specifying the delivery period.

Lesson learned:

Delivery, risks and costs are governed by the applicable incoterm used. If the Purchaser's intention was to have the Goods in the named place of destination within the specified 180 days, the delivery period should have been specified to be less than that (if feasible) considering the additional time that will be needed for international or national transit to the named place of destination.

Export Restrictions

Export restrictions may arise due to trade regulations from the country supplying the Goods. Under such situations, the supplier is released from the obligation to provide deliveries or services. However, the supplier should have met all of its other contractual obligations including permits, formalities, licenses etc., in order to be released from its obligations (for example, see contract provision: SPD, Goods, 1 envelope, GCC 37).

Delay in Letter of Credit Processing

As mentioned in the Section "Contract Start-up," issuance of an operational letter of credit is a critical activity for the timely delivery of Goods. Suppliers of Goods from abroad may not normally

ship Goods unless they have confirmation that an operational letter of credit is in place. Care would need to be exercised to ensure that the letter of credit is free of errors, as defective letter of credit results in delays and complications.

Any risks related to timely processing of a letter of credit should be identified early (for example, at the PPSD stage), and appropriate mitigation measures put in place.

Special Considerations: Information Systems Contracts

This section presents some issues and lessons learned to support Purchasers in some of the issues that may be encountered in managing information system contracts.

Software License Agreements

Issue: There are cases where a supplier provided no license, a pirated license, or fewer licenses than required. Sometimes the licenses were not in the name of the Purchaser and some licenses were based on multiple use. When this happens, the software does not run properly and will not be regularly updated with latest patches and upgrades.

Relevant contract condition: The relevant contract condition in the Bank's SPD Request for Proposal - Information System is GCC 16 ("Software License Agreements"). This clause provides that the supplier shall grant to the Purchaser license to access and use the software, including all inventions, designs, and marks embodied in the software.

Figure XXI provides a case study illustrating issues that can arise with software licensing.

FIGURE XXI Case Study: Pirate Licenses

Situation:

A Purchaser procured 45,000 laptops and desktops, including licensed software, for schools. The successful bidder supplied a renowned brand of laptops and desktops. It was later found that the supplier did not provide genuine licenses.

Lessons learned:

1. the terms of payment should be linked to the provision of the required legitimate, genuine licenses
2. the Purchaser (using an IT specialists) should verify that the licenses are genuine and granted in the name of the Purchaser. Most of the renowned firms in the industry publish specific license information on their websites
3. when in doubt, the Purchaser may confirm with the software company if the licenses are genuine and in the name of the Purchaser.

Source Code

Issue: In customized or bespoke software development contracts the Purchaser does not secure the base source code from the supplier or developer. This can result in significant problems for the Purchaser including performance issues, difficulty making modifications and upgrades, delays in the provision of an operating system and additional costs.

Background: Normally, there are two types of software systems, namely:

1. customized or bespoke software built by a developer (supplier) to meet the Purchaser's specific needs
2. "commercial off-the-shelf" (COTS) software which is a standard system that has already been developed for generic needs, tested and launched commercially for use by multiple clients.

Having possession of the software source code is critical for customized and bespoke software systems. The source code allows the Purchaser to make subsequent modifications, bug-fixing, and updates. For COTS software and software-as-a-service, the risk is much less, as the developer is responsible for future modification and regular upgrades of the system

In customized and bespoke software development contracts, the supplier (developer) is often reluctant to provide the source code to the software that it is developing. This may allow them to charge high prices for future modifications and upgrades. Even when the Purchaser requests and receives the source code, it may not have the specialist knowledge to check it on receipt. If the source code that has been provided is not correct this can result in serious problems when the Purchaser attempts to modify the system at a later date.

Relevant contract condition: The relevant condition of the contract in the Bank's SPD, Request for Proposal - Information Systems is GCC or SCC 15.4 ("Source Code").

Figure XXII provides a case study illustrating issues that can arise with base source code.

FIGURE XXII Case Study: Base Source Code

Situation:

A Purchaser developed a nationwide MIS system with key performance indicators. The Purchaser did not review the contract carefully and did not challenge the developer's provision that it would provide only "upper-level source code" and that the base source code will be the developer's property and will not be shared with the Purchaser.

The developer completed the contract successfully and handed over the MIS system with a one-year free service. During implementation of the system, several issues were identified which required modification and upgrade. The Purchaser realized that the "upper-level source code" provided by the developer was not sufficient to allow it to make these changes. As the required base source code belonged to the developer, the Purchaser had no option but to grant a sole source contract to this developer at a relatively high price for the ongoing required modifications and upgrades.

FIGURE XXII Case Study: Base Source Code (*Continued*)Lessons learned:

1. do a market analysis of the product especially for custom made or bespoke software and check whether disclosure of source code is allowed by the key developers
2. include the appropriate source code disclosure or ownership requirement in the contract
3. appoint a qualified project manager in the field to manage the contract implementation and takeover “Source Code” from the Developer (if mentioned in the contract). The project manager should verify that all source code is duly received and in future the Purchaser can do modifications by its own staff or any other developer.

Specialist Project Manager

Issue: Generally, the Purchaser does not appoint a qualified project manager and tries to fulfill this function using its own staff, who may not have sufficient knowledge and experience in such a specialized field. This can affect quality control and contract implementation.

Relevant contract condition: The relevant condition of the contract in the Bank’s SPD, Request for Proposal - Information Systems, is GCC 18.1 (“Project Manager”). This states that the project manager shall have the authority to represent the Purchaser on all day-to-day matters relating to the system or arising from the contract. It is the project manager that normally gives and receives notices on behalf of the Purchaser.

Figure XXIII provides a case study illustrating issues that can arise when a project manager lacks competency.

FIGURE XXIII Case Study: Project Manager Not CompetentSituation:

A Purchaser contracted the development of a bespoke Management Information System (MIS). The Purchaser had one systems analyst who was the Purchaser’s staff. The Purchaser appointed this person as the Project Manager. He was not trained, had insufficient experience to manage such a complex contract and had little expertise on this type of system. In addition, he had other routine work and day-to-day responsibilities. The developer took advantage of this. There were inordinate delays, several variation orders, and the base source code was not handed over at the end of the systems development.

Lessons learned:

1. a qualified Information and Communication Technology (ICT) expert should review the bidding documents and advise on the level of expertise, training and experience that will be required for the project manager
2. a suitably qualified and experienced project manager should be identified and, if possible, involved in the procurement at an early stage (including reviewing the specifications, checking the proposed contract clause/s, be involved in bid or proposal evaluation, supplier selection, contract development and the development of the Cloud Management Platform (CMP))
3. the project manager should allocate and permit sufficient time to properly manage the contract.

Systems Requirements

Issue: As part of the detailed design, the supplier was to prepare a System Requirement Specification (SRS). This is the most important document for the development of a successful system.

During preparation of the SRS, the supplier normally needs to have significant consultations and information gathering with the Purchaser, relevant stakeholders and end users. In most cases, stakeholders and end users provide limited time and information. This could result in the supplier not getting the information that it needs to design a system that is fit-for-purpose. It could also result in delays as the supplier makes efforts to try to reach the stakeholders and end users to get answers.

The Purchaser should review the final SRS and satisfy itself that there has been a sufficient level of stakeholder and end user engagement. If not, the Purchaser should take the initiative to source the appropriate information so that it can provide constructive comments on the SRS. Generally, this does not happen. As a result, there are significant design and engineering changes during contract execution. This translates into cost and time overruns and risks developing a system that is not fit-for-purpose.

Relevant contract condition: The relevant condition of contract in the Bank's SPD, Request for Proposal – Information Systems is GCC 21. ("Design & Engineering"). It states that the supplier shall execute the basic and detailed design and the implementation activities necessary for successful installation of the system in compliance with the provisions of the contract.

Figure XXIV provides a case study describing issues that may arise when there is insufficient consultation.

FIGURE XXIV Case Study: Insufficient Stakeholder and End User Consultation

Situation:

A Purchaser was developing a comprehensive MIS system following bespoke software development. After some consultation with the stakeholders and end users, the developer submitted the SRS for Purchaser's approval. The Purchaser did not have enough expertise in its team and approved the SRS with minimal comments. During the final stage of implementation, it was found many of the required features were not working as expected, but that the design was consistent with the approved SRS. The Purchaser had to approve change orders and time extensions, resulting in delays and increased costs.

Lessons learned:

1. identify the relevant stakeholders and end users and fully inform them of the proposed systems development and set expectations in terms of developer consultation
2. select representatives from the stakeholders and end users to actively engage with the developer during the development of the SRS, provide constructive feedback on the draft SRS and act as a sounding board during systems development
3. facilitate the consultation and ensure adequate dissemination of information
4. establish a qualified subject manager team to review the feedback from stakeholders and end users and check that all design factors have been included and are properly stated
5. involve the stakeholders and end users in reviewing and testing the final proposed product.

Quality of Product

Independent Testing

Issue: Some IT products provide warranties for long periods (5 or more years). It is sometimes difficult to judge, on inspection, if these products will last till the expiry of the warranty.

Relevant contract condition: The relevant condition of contract in the Bank's SPD, Request for Proposal – Information Systems, is GCC 25. "Inspection and Testing."

Figure XXV provides a case study on the importance of quality in relation to specific goods.

FIGURE XXV Case Study: Durability of National ID Cards

Situation:

A Purchaser planned to procure "smart" national ID cards for its citizens. As per the strategy, the Purchaser required the cards to have a durability of 10 years. Through conventional pre-shipment inspection or ISO certification, it was not possible to ensure 10 years' durability. This was a major investment and the Purchaser wanted to make sure that it received a quality product with appropriate durability. After detailed market analysis, it was found that a certain specific test arranged by an independent firm could ensure the durability of the card. It took almost 10 months to get to this point. The Purchaser incorporated the test for each batch of cards supplied. It was a condition of the contract that if a test result was "negative" the supplier was required to replace the whole batch. An extended performance guarantee was agreed to cover an additional 10 months after delivery.

Lessons learned:

1. incorporate, as appropriate, independent testing to ensure that the technical specifications and performance are consistent with the contract requirements
2. Payments may be linked with the results of the independent tests and the delivery of quality conforming batches.

Delivery Acceptance Testing

Issue: The testing mechanism needs to be appropriate to the nature of the Goods.

Relevant contract condition: The relevant condition of the contract in the Bank's SPD, Request for Proposal – Information Systems is GCC 25. ("Inspection and Testing").

Figure XXVI provides a case study illustrating the importance of acceptance testing.

FIGURE XXVI Case Study: Brand and Performance Requirements Not Met

Situation:

A Purchaser awarded a contract for the supply of desktop computers. The supplier offered the latest model of a known brand and delivered the desktop computers. The Purchaser distributed the desktops, and all were working in different workstations. As part of a procurement post review exercise, the Bank's team reviewed the contract

(continues)

FIGURE XXVI Case Study: Brand and Performance Requirements Not Met (*Continued*)

and found that the computers were not the claimed brand, The computer body appeared consistent with the contract specifications, but the processer speed was much less than stated in the contract specification.

Lessons learned:

1. incorporate testing, as appropriate, on delivery to ensure that the technical specifications and performance are consistent with the contract requirements
2. payments may be linked, as appropriate, to satisfactory quality assurance testing
3. clearly mention in the contract that the product will be in the name of the Purchaser's relevant agency and the manufacturer must issue certificates in this name mentioning the model and serial number of each product
4. the Purchaser should verify with the manufacturer the authenticity of the products.

Upgrades and Discontinued Products

Issue: IT procurement is subject to relatively rapid technological advances. Sometimes an offered model may have become obsolete or close to obsolete. By purchasing such a product, the Purchaser loses VfM with the added difficulty of getting repairs and spare parts.

Relevant contract condition: The relevant condition of the contract in the Bank's SPD, Request for Proposal – Information Systems is GCC 23 ("Product Upgrades"). This clause states that at any point during performance of the contract, should technological advances be introduced by the supplier for Information Technologies originally offered by the supplier in its bid, and still to be delivered, the supplier shall be obligated to offer to the Purchaser the latest versions of the available Information Technologies having equal or better performance or functionality at the same or lesser unit prices.

This condition of contract also stipulates that at any point during performance of the contract, for Information Technologies still to be delivered, the supplier will pass on to the Purchaser any cost reductions and additional and/or improved support and facilities that it offers to other clients of the supplier in the Purchaser's country.

Figure XXVII provides a case study describing the risks of upgrades and discontinued products.

FIGURE XXVII Case Study: Upgrades and Discontinued Products

Situation:

A Purchaser initiated a process to procure 4,000 desktops for its whole organization as part of a full atomization process. The bid evaluation and contract award process took nearly 7 months due to a complaint and other evaluation issues. When the Purchaser issued the purchase order, it was found that the cost of the specific model was 30% cheaper in the market. In addition, the new series of this model had been launched by the manufacturer. After 1.5 years of service the Purchaser had difficulties in getting spare parts as the supplier had discontinued production of the model. This is a classic example of significant monetary and efficiency loss in IT procurement.

FIGURE XXVII Case Study: Upgrades and Discontinued Products (*Continued*)Lessons learned:

1. Purchasers should be aware of relevant contract clauses (such as GCC 23.1 and 23.2) and take benefit from these provisions
2. It would be helpful to highlight for the bidders' attention (for example in the Bid Data Sheet) the contractual provision on product upgrade
3. during contract execution, the Purchaser should enforce this requirement, by for example, asking the supplier to provide updated information on monthly basis
4. the Purchaser should check the product price and new release or upgrade information monthly. Generally, this information is available on the manufacturer's website.

Transfer of Knowledge

Issue: The proper transfer of knowledge to run the IT system after hand- over can be an issue. Failure to transfer knowledge creates difficulties for the Purchaser in running the system. There are three ways to operate an ICT system:

1. by the Purchaser's own staff
2. by the developer through a service agreement with the Purchaser
3. by a third-party service agreement (where the third-party is selected competitively or by sole source).

As part of the CMP, the Purchaser should have a method of ensuring knowledge transfer to ensure the sustainability of the system. As part of this, the Purchaser should consider the costs of keeping the system up to date.

Relevant contract condition: The relevant condition of the contract in the Bank's SPD, Request for Proposal – Information Systems is GCC 19 or SCC 19 ("Project Plan"). A detailed approach to the transfer of knowledge should be part of the Project Plan and this needs to be approved by the project engineer.

Figure XXVIII provides a case study illustrating the importance of knowledge transfer.

FIGURE XXVIII Case Study Knowledge Transfer and Ongoing FundingSituation:

The Purchaser developed a contract management MIS for all contracts being managed by the Roads and Highway Department (RHD). The system was running well and the RHD discontinued the old manual entry process. The new system increased efficiency and transparency significantly. The system continued to run

(continues)

FIGURE XXVIII Case Study Knowledge Transfer and Ongoing Funding (*Continued*)

through donor funding support with an agreement with the developer. Three years later the donor pulled out of the transport sector. RHD had shortage of funds to continue to run the system with the developer. As a result, RHD tried to run the system on its own (using staff in the IT department) but their capacity was insufficient and there had been no knowledge transfer or training by the developer. Gradually the MIS system failed and the RHD abandoned it.

Lessons learned:

1. the Purchaser should prepare a strategy to run the IT system taking into account: HR resources, costs, technological resources etc.
2. based on its strategy a transfer of knowledge program should be agreed with the developer and included in the contract. The transfer of knowledge must target the appropriate staff, and there should be a plan in place to continue to transfer knowledge with that team to support greater sustainability
3. consider including the national IT department in the development of a strategy and plan for transfer of knowledge
4. the developer's transfer of knowledge to the Purchaser's staff should be linked to contractual payments.

Cybersecurity Risks

As discussed in the relevant section, while cybersecurity risks may be prevalent across different sectors, the risk is particularly relevant to ICT contracts. The Employer or Purchaser or Contract Manager should diligently ensure that such risks are prevented or appropriately mitigated in accordance with the contract. Any emerging risks should be closely monitored and appropriately addressed.

Value Engineering

Issue: ICT technology is generally subject to rapid changes. During the bidding stage or contract implementation stage new technology may come on the market, often at a reduced cost. In ICT contracts the use of VE can be beneficial where solutions exist, or alternate technological may be developed.

Relevant contract condition: The relevant condition of the contract in the Bank's SPD, Request for Proposal–Information Systems is GCC 39.4. ("Value Engineering"). The supplier or developer can give a VE proposal to the Purchaser at any time during the performance of the contract. The Purchaser may accept the VE proposal if the proposal demonstrates benefits that:

1. accelerate the delivery period
2. reduces the contract price or the life cycle costs
3. improves the quality, efficiency, safety or sustainability of the system.

Figure XXIX illustrates issues that may arise where VE is not encouraged.

FIGURE XXIX Case Study: Data Center VE

Situation:

For a nationwide IT system, a Purchaser designed a data centre and backup data centre with full redundancy. Both data centres had the same capacity servers and storage, so that if the main data centre failed then the backup data centre would take over. The design was based on an active-passive mode (meaning that the main data centre worked continuously whilst the back-up data centre remained idle). The backup centre only worked when the main data centre failed.

During the contract implementation stage, the supplier identified that the main data centre and backup data centre were within 3 km distance of each other, and it was possible to work in an active-active mode (meaning both the data centres could work simultaneously). In such a scenario, the server and storage size can be reduced by 30% and the system still capable of working on one data centre if other one fails. By implementing this change the total contract savings was 25% of the contract price.

Lessons learned:

1. the Purchaser should encourage VE with a suitable \$% supplier incentive included
2. suitably qualified experts should review any VE proposal to make sure the proposed alternate solution demonstrates the stated benefits.

Recurrent Costs Throughout the Lifecycle

Issue: Operation and maintenance (O&M) costs are significant for any IT system. By using life cycle costing, the Borrower can determine the best O&M or recurrent costs of the IT system. However, it is difficult to include all such O&M or recurrent costs in the Bank financed contract as the life of the system is beyond the Bank funded project life. Hence, the Borrower cannot secure the risk of high O&M or recurrent costs after the project closing as there is no legally binding contract to enforce the offered O&M or recurrent costs by the bidder.

A possible mitigation measure could be to sign a long-term service agreement (LTSA) using the Borrower's own fund at the time of signing the system development contract under a Bank-financed project. And include a reference of the LTSA in the Bank financed system development contract.

Relevant contract condition: The relevant condition of the contract in the Bank's SPD, Request for Proposal – Information Systems, is GCC 24.2 ("Implementation Installation and other services"). The clause states, "Prices charged by the Supplier for Services, if not included in the Contract, shall be agreed upon in advance by the parties (including, but not restricted to, any prices submitted by the Supplier in the Recurrent Cost Schedules of its proposal) and shall not exceed the prevailing rates charged by the Supplier to other purchasers in the Purchaser's Country for similar services."

Figure XXX illustrates issues that can arise in relation to recurrent costs.

FIGURE XXX Case Study: Recurrent Cost

Situation:

For the development of a nationwide customized or bespoke IT system, the Borrower assessed the life of the IT system as 7 years. The Borrower considered a 7-year life cycle costing that included all O&M and/or recurrent costs. To fulfil this contractual obligation, the Borrower decided to sign a 7-year LTSA with the winning bidder from its own funds, through a yearly budget allocation, at the time of signing the Bank-financed contract.

Lessons learned:

1. during the development of the procurement strategy, the Borrower assessed the risk of high operating cost and/or recurrent cost and took appropriate measures
2. by signing an LTSA at the same time as the system development contract, the Borrower secured smooth operation and maintenance of the IT system throughout its life with a reasonable cost implication.

Special Considerations: Consulting Services Contracts

Supervision

The TOR and other provisions of consultant contracts should be thoroughly reviewed between the Client and the consultant during contract negotiations and prior to signing Bank-financed consulting assignment contracts. This paves the way to setting up suitable supervision arrangements by the Client who is responsible for such supervision .

The Client should monitor the progress of work, the timely completion of deliverables, the staff months and funds expended (for time-based contracts), and determine where, within the contract, changes in the scope of work might be appropriate. The contract normally requires the consultant submits regular progress reports, and that the Client provides comments in a timely manner.

The Client should designate a Contract Manager with adequate technical qualifications, managerial experience, and authority. In certain instances, involving large and complex projects, a steering committee composed of high-level representatives of the Client and the consultant may be formed to exercise arm's length supervision over the assignment through the counterpart project manager and the consultant's team leader. The steering committee can be particularly useful when the Client's executing agency and the consultant have to coordinate their work with other agencies Client agencies. The opportunity to report on a regular basis to such a committee can facilitate collaboration and understanding between the Client and the consultant and avoid disputes over technical or other issues.

Contract Management

The Client must ensure that there is sufficient time spent planning the implementation of the contract. Some of the internal arrangements that the Client may need to make include:

1. assign specific and detailed contract management tasks to the individuals or the team responsible for contract implementation. The tasks assigned need to be precise and realistic (considering the specific experience, expertise and workload of each individual)
2. ensure that counterpart staff are made available, in timely manner, in accordance with the contract
3. ensure that facilities to be provided by the Client to the consultant are made available, in a timely manner, in accordance with the contract

4. establish sufficient internal procedures (hierarchy, communication, levels of authority, flow of documents, reporting, verification, acceptance procedures, payment procedures, and internal audit etc.) at the outset
5. monitor and evaluate contract implementation risks and ensure effective management and mitigation measures are taken, including assigning responsibility for their enforcement
6. coordinate arrangements with third parties (other agencies, end users, beneficiaries etc.), especially when the Consulting Services are contracted on behalf of end users (for example, training).

Kick-off Meeting

A kick-off meeting with the consultant is critical at the start of the consulting assignment. The Client's Contract Manager and other staff involved in supervision of the consulting assignment need to be present. It is also good practice to involve end users of the assignment, if any, at this stage.

As a minimum, the kick-off meeting should cover the following:

1. introducing the parties, their roles and responsibilities
2. establishing the communication and reporting procedures
3. reviewing the contract documents to ensure everyone understands the key provisions, the priority and inter-correlation of contract documents, conditions of contract, TOR, payment schedules and covenants, implementation milestones (deliverables, reports etc.)
4. review the consultant's quality plan, if required
5. review applicable legislation and any obligations deriving in connection to the execution of the contract in the client's country (for example, applicable tax regime, reporting obligations, if any, to other agencies etc.)
6. define escalation procedures to resolve critical situations or bottlenecks (such as, delays in performance or in obtaining permits and approvals, abuses of power from the Client's Coordinator, non-performance of consultants etc.)
7. establish clear reporting procedures (including, for example, the level, frequency, templates, minimum information etc.)
8. for supervision of Works contracts, ensure that the consultant has a clear understanding of its responsibilities to manage ES risks, ES reporting requirements and implementation of the ES Code of Conduct
9. ensure that all parties involved in contract implementation share the same understanding of their obligations, roles and responsibilities derived from the contract, as well as each other's expectations, and the timelines for delivery and any particular risks or constraints in implementation.

Non-compliant Deliverables

One of the features of consulting contracts is that the consultant is normally not required to provide a performance security. Given the intellectual nature of the deliverables, a performance security would be questionable to use.

In the absence of performance security, the main remedy (short of suspending payments and termination) available to the Client is the non-acceptance of the deliverables and/or reports submitted by the consultant. The latter to be used when the deliverables fail to meet the requirements of the contract and usually the Client request the consultant to redo the work to the Client's satisfaction.

Unsatisfactory Performance

Poor performance may involve one or more staff on the consultants' team, or the whole team. Based on the provisions of the contract, the Client should advise the consultants to take the necessary measures to rectify the poor performance.

Poor performance should not be tolerated, and the consultants are expected to act quickly to comply with a reasonable request to improve the performance of the team or to replace any staff member who is not performing adequately. If the consultant fails to take adequate corrective action/s, the Client may take appropriate further remedial actions in accordance with the contract, including termination and/or recourse to the dispute resolution provisions.

Approving Payments

Lump sum contracts are paid on acceptance of deliverables, with no actual accounting of the inputs used by the consultants. Conversely, payments under time-based contracts are made after due verification of all supporting documents (reports, timesheets, invoices, receipts etc.).

The following aspects are important in the process of verification of payment applications:

1. establish internal control mechanisms for the verification and approval of payment applications, such as internal audits, double checking etc.
2. verify professional rates, actual time spent (for remuneration and per diems), unit prices and quantities (for reimbursable expenditures)
3. verify supporting documents in time-based contracts (timesheets, reports, invoices, receipts etc.)
4. ensure that the appropriate recovery of the advance payment has been deducted from the payment (in time-based contracts) unless the total payment schedule is explicitly for 100% of price, including advance or mobilization payment
5. verify invoices
6. check if the payment request fits the payment schedule or milestones in the contract.

Time Control

The Client should monitor implementation against the agreed schedule of work. The following time control checks should be made:

1. check compliance with the contract milestone dates (submission of deliverables, reports etc.)
2. consider actions to speed up progress and ensure compliance with contractual time for completion of the assignment.

Key Risks

There are some specific risks associated with consulting contracts.

General

In general, the following aspects should be looked for:

1. consultants usually work on multiple assignments for different clients, so they might end up with more work than they can handle
2. unjustified requests for replacement of staff
3. replacement of staff with inadequately qualified individuals
4. some consultants may take excessive time to fully understand the needs of the Client, the scope of assignment and the constraints
5. the consultants may not actually transfer knowledge and capacity building as required by the contract.

Time Based Contracts

In general, the following aspects should be looked for:

1. because of the flexible nature of the contract, consultants may have the tendency to slow down the progress of the assignment and seek additional time
2. the consultant may be over-charging, especially the “home or office” time
3. the consultant tries to reallocate time from field to home or office activities
4. payments are not related to actual deliverables
5. tendency of front-loading, for example, claiming more days at the start of the assignment and delay completion once most of the money has been paid

6. use of less qualified consultants in the home office than originally agreed in the contract at the same rates
7. same consultant charging the same professional time (same days) in two or more consulting assignments.

Lump Sum Contracts

In general, the following aspects should be looked for:

1. due to the inflexible nature of the contract, the scope of assignment cannot be easily modified or adapted to fit the changing needs of the Client
2. when negotiating additional tasks:
 - a. be aware that the consultant may overestimate the actual input
 - b. ensure that the rates used to calculate any additional services are the unit rates of the staff included in the contract
 - c. be aware that the consultants may attempt to create a need for more expensive extra expertise or additional expenses to use higher rates than those provided in the contract.

Contracting Modalities

The importance of Contracting Modalities

1. The contracting modality selected for a contract defines the allocation of risks, responsibilities and can best foresee or identify the risk?
2. can best control the risk and its consequences?

relationship between the contracting parties, including for Works and Plant contracts, the Engineer or Project Manager.

Good practice is that there is a fair and balanced allocation of risks between the Borrower and the contractor. The following factors help determine what is fair and balanced. Which party:

1. can best bear the risk?
2. suffers the most if the risk materializes?

The Procurement Regulations outline types of contracts that are normally used in Bank-financed projects. The different contracting modalities have their pros and cons. Which modality should be applied should be carefully assessed in developing the PPSD. Figure XXXI summarizes some of the main types of contracts.

FIGURE XXXI Types of Contract Modalities

Type of Contract	Type of Procurement							
	Goods	Works	Plant	Info. Systems	Non-Consulting Services	Text Books	Consultants	Management Services
Design and Build Contract		✓	✓	✓				
Engineering, Procurement and Construction		✓	✓	✓				
Performance Based Contracts		✓	✓	✓	✓			✓

(continues)

FIGURE XXXI Types of Contract Modalities (*Continued*)

Type of Contract	Type of Procurement							
	Goods	Works	Plant	Info. Systems	Non-Consulting Services	Text Books	Consultants	Management Services
Contract based on Unit Prices	✓	✓		✓	✓	✓		
Time-based Contracts					✓		✓	
Reimbursable-cost Contracts					✓		✓	✓
Lump-Sum Contracts							✓	

Design and Build

A Design and Build (D&B) contract is a construction procurement method where a single contractor is responsible for designing and constructing a project, streamlining the process for time and cost efficiency while simplifying project management for the Client. D&B contracts are normally used for Works, Plants and information systems. Payments are made on a lump sum basis except for specific work items (for example, laying the foundations). Where the facilities are to be operated by the contractor for a specified time, the contracting arrangement becomes a Design, Build and Operate (DBO).

The pros and cons of D&B contracts with respect to contract management are outlined in Figure XXXII.

FIGURE XXXII Pros and Cons of D&B Contracts

Pros	Cons
Single point of responsibility.	Risk of reduced quality of material and workmanship.
Potential for better design and construction coordination.	Employer or Purchaser has less control over the design work.
Employer or Purchaser is not responsible for any dispute between design and construction teams.	Employer or Purchaser does not benefit from independent advice and input from design consultant. The design consultant works for the contractor.
Less risk to Employer or Purchaser for errors and omissions.	There is a need to clearly define the functional, esthetic and performance requirements upfront.
Could be less administrative burden to Employer or Purchaser.	More risk to contractor's design and build team.
Potential for cost saving.	
Potential for faster implementation.	Increased risk of failure of the contractor (especially if insufficiently qualified)

Special contract management considerations for D&B contracts:

1. **Scope of Work:** both the Employer or Purchaser and the contractor are expected to have a clear understanding of their respective roles and responsibilities taking into consideration the contractor's responsibility for the design work
2. **Insurance:** Employers or Purchasers would need to confirm that the contractor's insurance includes design professional liabilities
3. **Expertise:** the need for professional expertise by the contractor to be able to adequately assess the cost at the time of bidding, design the Works in accordance with the Employer's or Purchaser's requirements, and the Employer or Purchaser being able to review the designs and confirm that they meet its requirements.

EPC Contracts

Engineering, Procurement and Construction (EPC) contracts shift significant risk to the contractor including unforeseeable difficulties.

Some of the benefits of EPC or Turnkey contracts include:

1. certainty about a project's final costs and time for execution. EPC brings greater certainty than is allowed under contracts that reflect the traditional allocation of risks
2. gain from contractor innovations
3. reduced lead time, which is the time needed for preparation of detailed engineering design is saved
4. single point of responsibility.

Some of the limitations compared to execution to Employer's detailed design include:

1. the Employer should be able to evaluate objectively and properly the turnkey solutions (sometimes widely varying solutions) that are being proposed
2. higher upfront cost (due to risk premium)
3. lesser number of bidders, as cost of bid preparation in EPC packages is much higher (bidders need to conduct extra due diligence to identify risks, as well as efforts involved in preparation of preliminary drawings) in comparison to that for admeasurement type packages
4. the contractor has the incentive to complete the contract faster and make it less costly which may result in reduced quality of materials and workmanship.

Managing output-based contracts such as EPC does not mean having weak controls. The contract should be closely monitored in accordance with the contract.

Performance-based

Performance-based contracts are result-oriented, and payments are made for measurable outputs that satisfy the Employer's or Purchaser's functional and/or performance requirements. Performance-based contracts may be appropriate for road maintenance and rehabilitation, Non-consulting Services, operation of facilities or other similar contracts where satisfactory performance is the primary focus.

Key factors for successful performance-based contract execution include:

1. adequate skills and expertise within the Employer's or Purchaser's staff
2. appropriate capability of the contracting and consulting industry
3. facilitating an enabling contracting and partnering environment
4. stable multi-year funding
5. adapting the general principles to the local context of each country.

In managing performance-based contracts, the Employer or Purchaser needs a performance assessment plan describing how the Employer or Purchaser will assess the contractor's performance in accordance with the requirements in the contract. Several methods can be used to decide on the scope and timing of the assessment. These include:

1. random sampling
2. periodic sampling
3. trend analysis
4. customer feedback
5. third party audit.

Admeasurement

Admeasurement can be used in a contract based on unit price. A unit price contract is based on estimated quantities of items included in the project and unit prices (hourly rates, rate per unit of work, volume, etc.). In general, contractor's overheads and profit are included in the rate. The final price of the contract is dependent on the quantities needed to carry out and complete the work.

In a unit price contract, the risk of inaccurate estimation of uncertain quantities for some key tasks is not borne by the contractor. However, some contractors may submit an "unbalanced bid" when they discover discrepancies between their estimates and the Employer's or Purchaser's estimate of quantities.

Managing unit price contracts includes:

1. ensuring that payments are made using the unit prices in the contract
2. ensuring that the quantities are measured using the method of measurement applicable to the contract
3. revisiting the unit prices if provided for in the contract.

Underground Works

Given the risk of shifting unforeseeable conditions for sub-surface works, a more balanced risk allocation in the contracting approach has lately emerged in FIDIC (Emerald Book and applied in Bank's SPDs) where the geotechnical baseline report (GBR) is defined as a reference of risk allocation such as, subsurface physical conditions not addressed in the geotechnical baseline report are considered unforeseeable. Given its significance, the GBR should be developed by relevant experts in the field.

Payment Modalities

Lump-sum

Lump-sum payments (linked to milestones) are normally applied in D&B, DBO, EPC and noncomplex Works (such as simple maintenance) and, as one of the two contracting options (the other being Time-based), in Consulting Services contracts.

Payments under lump-sum contracts are normally made upon successful delivery of a contractual milestone. Payment may be a percentage of the total contract amount. Lump-sum contracts are appropriate when the deliverables of the Consulting Services can be clearly and accurately specified.

In managing lump-sum based contracts, the key factors that the Employer or Purchaser or Client should focus on include:

1. has an effective quality assurance system in place
2. monitor the performance of the contractor towards meeting the milestones in a timely manner
3. ensure that the outputs are delivered in a timely manner to the level of quality required by the contract.

Time-based

Contracts based on time-based payments are normally used for Consulting Services when it is difficult to define or fix the scope and duration of the services (such as supervision of Works that are dependent on activities of the contractor/s). Such contracts need to be monitored very closely

to ensure that the consultants are charging for the time actually spent on the assignment, that reimbursables are in accordance with the contract and that the quality of services are acceptable. If not managed closely, such contracts can be the source of significant time and cost overrun coupled with poor quality of services. Figure XXXIII provides a case study that reflects the impact of poor management in a Time-based Contract.

FIGURE XXXIII Case Study: Poor Management of Time-based Contract

Situation: An international expert was employed for a period of two years by a Client under a technical assistance project. The TOR included structured training (classroom and on-the-job training) of the Client's staff in a specialized field.

Relevant Client staff attended the structured trainings. However, the Client's management kept the relevant staff busy with their operational tasks. The Client's relevant staff had little incentive to get the on-the-job training.

The consultant continued to give the structured training. When the consultant was asked why on-the-job training was not being carried out, the consultant complained that staff had been kept busy with their other work and had little incentive for on-the-job training. This coupled with the lack of a monitoring and evaluation mechanism to ensure the knowledge transfer outcomes resulted in the expiry of the two years with minimum practical knowledge transferred to the Client's staff.

Hybrid Payment (including success or incentive fees)

Hybrid payments may include, in addition to a combination of lump sum and time-based payments, other payment modalities such as a combination of retainer and success fees, for example, in the context of privatization operations. For management contracts (such as managing public utilities), the contract may also have included an incentive fee for achieving specific performance targets in addition to the base remuneration. Where such success or incentive fees are specified, the successful achievement of the targets should be closely monitored to ensure correct application of the success or incentive fees.

Measuring Performance

Monitoring of KPIs - General

Key performance indicators (KPIs) facilitate monitoring contract progress, performance and outcomes. Monitoring performance using KPIs is not necessarily monitoring activities. The detailed contract execution activities are monitored and/or supervised in accordance with the contract and relevant elements of the CMP (if there is one). The KPIs support these efforts by focusing on key indicators for successful performance and outcomes.

Although the KPI may vary depending on the specific contract, the performance measures may normally include aspects related to cost, time, quality, ES performance, and stakeholder (end users and/or community) satisfaction.

If needed, the key performance indicators could include sub-indicators. A color system may be used to show the monitoring results of the indicators, to guide the focus of attention. The indicators could also be weighted (out of 100, for example) depending on the relevance to successful contract performance, and scores given based on the monitoring results. Such a weighting system should not be a mechanical exercise, losing sight of the realities of the contract. As an example, % of actual physical completion versus contractual physical completion over the period may score 9/10. On face value, this may seem that the contract is almost progressing as scheduled. However, it could as well be that a critical path in the program has just started to be affected and its effect is not yet apparent. If the Employer or Purchaser loses sight due to the 9/10 performance in this indicator, the contract could soon start to suffer with significant consequences.

KPIs are only indicators and not an end by themselves. If a certain KPI is not met, the reasons should immediately be identified, discussed with the contractor as needed, and issues or bottlenecks addressed in a timely manner in accordance with the contract. As an example, % of actual physical completion versus contractual physical completion over the period should be 100% if the contract is being implemented in accordance with the agreed program. If this is below 100%, the reasons should be immediately investigated with focus on the causes. The delay is an effect, and the underlying causes could be cascaded and therefore the need to address the underlying cause. In this example, the cause of the delay could be the contractor starting to slow site operations. The underlying cause may be the Employer or Purchaser delaying payments due to the contractor and hence the contractor facing cash flow issues. The real cause is the undue delay in payments and therefore should promptly be addressed as appropriate.

Good Practice

The Employer or Purchaser:

1. KPIs are developed by multidisciplinary teams, which include relevant experts, such as technical, financial, E&S, procurement, as required.
2. uses the contract as the main source of information for developing the KPIs
3. starts to develop the KPIs early (at PPSP stage) to be further developed and finalized when more information becomes available, for example, at the contract award stage
4. KPIs may be tested during early market engagement and modifications included in the procurement documents as part of progress report metrics
5. includes the KPIs in the CMP
6. ensure that the KPIs are fit for purpose, consistent with the contract and its objectives, - and take into consideration the nature, complexity, contractual obligations and risk allocation
7. ensures the reliability of information (for example, quality assured contractor's progress reports) that feeds into the KPIs and that the KPIs are measurable
8. communicates with the contractor to ensure understanding, and get inputs as appropriate
9. monitors contract implementation against the KPIs
10. If a KPI is not met, the underlying cause should be identified, and issues or bottlenecks addressed in an action plan
11. regularly test the KPIs, and review and update them, as appropriate
12. includes the KPIs in the items for discussion in progress meetings
13. use the KPIs in post-contract review, and record lessons for future operations.

Information Source and Tools or Monitoring KPIs

1. the contract is the main source of input to the KPIs
2. updated contractor's work program
3. CMP reports and updates
4. procurement plan updates
5. disbursement reports and withdrawal applications
6. regular progress meeting minutes
7. project management software.

Some Generic Indicators

1. Value engineering, used as applicable, resulting in enhanced quality, safety, reduction in life cycle costs and other desirable features
2. contract is completed as scheduled, contractual technical and commercial requirements are met or exceeded and within budget
3. variations are contractually justified, add value, enhance risk management and/or contribute to successful contract completion
4. contract outputs meet objectives or enhanced objectives
5. final contract price compares favorably with comparable bench- marks

Rated Criteria and KPIs

Figures XXXIV and XXXV provide examples of the use of KPIs.

FIGURE XXXIV Example 1 KPIs

This example is illustrative only and does not provide a comprehensive treatment. Actual KPIs should be developed depending on the objectives, nature, size, risk and complexity of the subject contract.

Time

1. Measure of physical progress =

$$\% \text{ of actual physical completion vs. contractual physical completion over the period}$$
2. Measure of time over run =

$$\frac{\text{actual contract period} - \text{contract period} \times 100 (\%)}{\text{contract period}}$$
3. Measure of contractor's default: un-excusable delays percentage =

$$\frac{\text{un-excusable delays} \times 100 (\%)}{\text{total delays}}$$
4. Measure of Employer's or Purchaser's default: excusable delays percentage =

$$\frac{\text{excusable delays} \times 100 (\%)}{\text{total delays}}$$

Cost

1. Measure of financial progress =

$$\% \text{ of actual paid vs. contractual expected payment over the period}$$
2. Financial progress vs. physical progress: (%)

(continues)

FIGURE XXXIV Example 1 KPIs (Continued)

3. Cost overrun =

$$\frac{\text{actual contract price} \times 100 (\%)}{\text{original contract price}}$$

Quality

1. Number of defects identified during the period.
2. Performance guarantees: % met.
3. End user and/or community satisfaction:
 - a. number of community grievances during period
 - b. end user satisfaction survey.

ES

1. Lost time due to safety related incidents (%) =

$$\frac{\text{lost time} \times 100 (\%)}{\text{contract period}}$$
2. Number and severity of environment related contractual defaults
3. Number and severity of SEA/SH related contractual defaults

(Note: These are just some examples. The KPIs should reflect key issues identified in the ES assessment. For infrastructure contracts such as Works and Plant based on Bank's SPDs, as suitably amended to reflect the specifics of the contract. The appendix to the contract, the metrics for progress reports, could be a helpful resource for developing KPIs for ES.)

FIGURE XXXV Example 2 – KPIs

This example, for D&B Works, is illustrative only and does not provide a comprehensive treatment. Actual KPIs should be developed depending on the objectives, nature, size, risk and complexity of the subject contract.

Cost, schedule, time

1. Cost Performance indicator
2. Schedule Performance indicator
3. Time performance indicator
4. Inexcusable delays percentage
5. Excusable delays percentage

FIGURE XXXV Example 2 – KPIs (*Continued*)**Quality**

1. confirmation (by Engineer or independent quality assurance) of quality, reliability and acceptability of design
2. continued positive assessment (by Engineer or independent quality assurance) of adequacy, stability and safety of contractor's operations and ongoing works
3. failed inspection and test results not remedied vs. total domain of tests and inspection: %

performance or functional guarantees met vs. total number of performance or functional guarantees: %

ES

1. Number of health and safety incidents and accidents
2. Number of grievances (worker, community) vs. satisfactorily resolved
3. Compliance status with other key ES requirements
4. Compliance status with SEA/SH prevention and response action plan.

(Note: These are just some examples. The KPIs should reflect key issues identified in the ES assessment. For infrastructure contracts, such as Works and Plant based on Bank's SPDs, as suitably amended to reflect the specifics of the contract. The appendix to the contract, the metrics for progress reports, the appendix to the contract, the metrics for progress reports could be a helpful resource for developing KPIs for ES.)

Other Risks

The percentage of substantial risks that materialized and by whom they were managed versus substantial risks that materialized. Refer to the risk register for risks and risk allocation.

Cross-cutting

1. variations (employer, contractor's value engineering) that added value to the contract outcome vs. total number of variations: %
2. number of claims or disputes raised vs. satisfactorily resolved in accordance with the contract: %
3. periodic market testing or benchmarking or demonstrating continued value for money
4. satisfactory contract completion demonstrated through issuance of Performance Certificate (following defect notification period) with documented confirmation of performance (no conditions)
5. positive end user satisfaction outcome (qualitative)
6. readiness of the agencies (training, resources, O&M manuals, as-built records etc.) confirmed
7. post-implementation review confirmation of value for money, fit for purpose and sustainability

Rated Criteria and KPIs

With the introduction of mandatory (with a few stated exceptions) rated criteria in the evaluation of bids or proposals, a common question is how the Employer or Purchaser ensures that the quality of the technical proposal submitted by the most advantageous bid or proposal is indeed delivered during contract execution. As an example, the technical proposal exceeded the requirements of the specifications and/or the proposal is of superior quality including its managing of key ES and other assessed risks, enhanced sustainability etc. How does one ensure that this is delivered as proposed?

The response to this question would be that the contractor has committed to implement its bid or proposal including its technical bid or proposal, subject to any adjustments that may have been agreed, and appropriate contractual measures could be applied if the contractor fails to deliver its obligations. In addition, KPIs that assist monitoring delivery of the evaluated technical or quality attributes could be agreed as part of pre-contract discussions, for example, and added to the KPI list. This may be included in the contract (in a manner that does not conflict with other contractual provisions) or otherwise agreed in the minutes of precontract discussions.

Sample Template – Contract Management Plan

Sample Template CONTRACT MANAGEMENT PLAN

Project name: _____

Project ID number: _____

Contract name: _____

Contract description: _____

CMP prepared by: _____

Date: _____

Version [0.0]

[Date]

Instructions for preparation of a Contract Management Plan (CMP).

This template should be customized to suit the specific needs of the contract implementation. Entries in this sample template tables are examples only, and the CMP should be prepared based on the actual needs and specifics of the contract.

A draft CMP should be prepared by the Employer or Purchaser during the initial stages of the procurement process. The first version should be finalized promptly after a contract award decision has been made. It is good practice to share the CMP with the contractor, to ensure that there is a shared understanding of how the delivery of the contract will be managed.

The CMP is a living document and should be updated on a regular basis to ensure that it stays relevant and reflects the latest status of the contract.

PROJECT DESCRIPTION

[Insert a brief description of the project under which the contract is being implemented]

GENERAL CONTRACT INFORMATION

Contract Title:	
Contract Number:	
Contract Type:	
Location:	
Contract Start Date:	
Contract Duration:	
Contract end Date:	
Contract Amount and currency:	
Name of Contractor and address:	

PURPOSE OF THE CONTRACT MANAGEMENT PLAN

[Indicate the purpose of the CMP as it relates to the contract under consideration. The information shall include the intended user, values and benefits].

The main objectives of the CMP are to ensure that there is a clear understanding of the roles and responsibilities of the Employer or Purchaser and contractor.

GOVERNANCE STRUCTURE

[Describe the governance structure relevant to the contract. Where possible include a diagram showing the key parties, the hierarchy, lines of reporting etc.]

RISK MANAGEMENT

Event	Risk	Impact	Likelihood	Risk Rating	Risk Mitigation Action	Timeline	Responsible	Remark
	[insert the identified potential risks.]							

KEY CONTACTS, ROLES AND RESPONSIBILITIES

Organization	Name and Title	Roles and Responsibilities	Contact Information (email, tel, address)
Employer or Purchaser	<i>Contract Manager</i>		
Contractor	<i>Contractor's representative</i>		
Consultant	<i>Engineer</i>		

COMMUNICATION AND REPORTING PROCEDURE**Communication Procedures**

Communication Type	Objective	Format	Frequency	Audience	Owner

Contractual Notices

Descriptions	Objective	Contract Reference	Frequency/ Timing	From	To	Remark

Contractor's Documents

Descriptions	Objective	Contract Reference	Date

Reporting Requirement and Procedure

No.	Contract Ref. Clause	Due Date/Frequency	Recipients	Responsibilities	Required Action
[Progress Report]		[Monthly]			
[ES Progress reports]		[Monthly]			
[ES immediate reports]		[immediately after occurrence of event]			
Test results					

Issues Escalation Procedure

Nature of Issue	Level of Review	Responsible Body	Response Time	Type of Issue
Low or Routine				
Medium				
High				
Critical				

KEY CONTRACTUAL PROVISIONS

No.	Description	Contract Reference	Responsible	Remark	Risks
1.	Care and Supply of Documents		Employer	2 copies issued to contractor	
2.	Delayed Drawings or Instructions		Employer		Time extension cost compensation
3.	Right of Access to the Site		Employer	Give right of access within time stated in data sheet.	
4.					

CONTRACTUAL MILESTONES AND DELIVERABLES

Activity/Milestone	Responsible	Contract Reference	Start Date	End Date	Remark
Submit work schedule	Contractor				
Foundation work for section . . .	Contractor				Critical path
Complete structure for . . .	Contractor				
Pilot testing for . . .					

KEY PERFORMANCE INDICATORS (to MEASURE PERFORMANCE AND OUTCOMES)

No.	Deliverable	KPI	Performance Target	Test	Verification	Remark
1.						
2.						
3.						

UNDERPERFORMANCE/DEFAULT CONTRACTUAL ACTIONS

No.	Description of Underperformance	Responsible	Applicable Contractual Provision/s	Actions to be Taken	Remark
1.					
2.					
3.					

CHANGE MANAGEMENT PROCESS

No.	Change Initiated by	Type of Change	Responsible	Required Action	Review/Approval Process	Contract Amendment Requirement	Status
1.	Employer	Change in authority of the Engineer	Employer	Inform Contractor of any change			
2.	Employer	Change in scope of work	Engineer				
3.							

INSURANCE

No.	Type of Insurance	Contract Ref.	Amount/Limit of liability	Required Date	Expiry Date	Information Required
1.						
2.						
3.						

GUARANTEES AND SECURITIES

No.	Type of Guarantee/Security	Contract Ref.	Amount/Limit of Liability	Required Date	Expiry Date	Information Required
1.	[Advance Payment Guarantee]					
2.	[Performance Security]					
3.	[ES Performance Security]					
4.	[Retention Guarantee]					

PAYMENT PLAN /PROCEDURES

No.	Type of Payment	When/ Frequency	Documents Required	Process Time	Verification Process	Approvals
1.	Advance payment	Once	Advance payment Guarantee			
2.	Interim payments	Every month	Interim payment certificates, timesheets, proof of incurred expenditure, shipping documents etc.			
3.	Interest payments	Delayed payments				
4.	Price adjustment	—				
5.	Claims/Compensation	As needed	Contractors			
6.	Final Payment					

RECORDS MANAGMENT

No.	Type of Record	Owner	Responsible	Action Required	Remark
1.	[Contract documents and any amendments/]				
2.	Insurance details				
3.	[change orders]				
4.	[notices]				
5.	[Payment Documents, including documents on application of price adjustment if any]				
6.	Minutes of contract related meetings				
7.	[Progress Reports]				
8.	[immediate Reports on ES, if applicable]				
9.	[Test Results]				
10.	[Guarantees, warranty/defect liability and Securities]				
11.	Documents related to any suspension or termination				

KEY STAKEHOLDERS' ENGAGEMENT PLAN

No.	Stakeholder	Format	Frequency	Remark
1.				
2.				
3.				

CONTRACT CLOSURE PROCEDURES

No.	Activity	Responsible	Remark
1.			
2.			
3.			

PRICE ADJUSTMENT PROCEDURES

No.	Activity	Responsible	Remark
1.	<i>for example, verification of indices</i>		
2.			
3.			

INTERFACE MANAGEMENT

No.	Activity	Responsible	Remark
1.			
2.			
3.			

Sample Template – Contract Initiation Plan

Sample Template CONTRACT INITIATION PLAN

Project name: _____

Project ID number: _____

Contract name: _____

Contract description: _____

CIP prepared by: _____

Date: _____

Version [0.0]

[Date]

Instructions in the preparation of this Contract Implementation Plan (CIP)

This sample CIP is based on SPD Works, July 2023.

USER INSTRUCTIONS: This template is an example (Works admeasurement type of contracts. It is not a complete treatment of the subject (as the latter depends on the actual contract entered to by the parties). Where a mobilization plan is required, this may be incorporated in the CMP.)

Mobilisation	Action	Contractual Clause [insert applicable contractual provision reference, as applicable]	Timeline (period)	Responsible Party/Person
Commercial	■ Ensure that all relevant parties have copies of the Contract			
	■ Establish contract information management system			
	■ Ensure that valid performance security is in place			
	■ Establish a system to monitor expenditures and timelines for the Contract			
	■ Obtain evidence of insurance and policies, advance payment, and performance securities in accordance with the Contract			
	■ Ensure that advance payment is made in accordance with the Contract			
	■ Deliver to the contractor reasonable evidence of the Employer's financial arrangements			
	■ Agree on contractor's Representative (if already not named in the Contract)			
	■ Obtain planning, zoning and other permissions as required by the Contract			
	■ Give right of access to and possession of the Site as required by the Contract			
ES	■ Ensure that appropriate measures are in place to address environmental and social (ES) risks and impacts.			
	■ Evidence of induction/ training of contractor's and Contract Manager's Personnel on ES.			
	■ Ensure health and safety risk assessments have been completed for the mobilization activities and necessary safety measures are in place.			
	■ Where SEA/SH risk is high: ensure that SEA/SH orientation conference is carried out, in accordance with the contract, prior to the commencement of any physical work.			

Mobilisation	Action	Contractual Clause <i>[insert applicable contractual provision reference, as applicable]</i>	Timeline (period)	Responsible Party/Person
Operational/ Technical	■ Ensure that the Engineer is in place and the contractor is notified (if not already notified in the Contract)			
	■ Establish key performance indicators (KPIs) for the Contract			
	■ Check compliance with Employer's Requirements			
	■ Establish schedule for regular meetings, field visits, inspections, reviews and audits			
	■ Ensure that the contractor has instituted a quality assurance system relevant to mobilization			
	■ Dispute Board appointed in accordance with the Contract			
	■ Notice of the intended date of the commencement of each sub-contractor's work, and of the commencement of such work on the Site			
Contractual Relationship	■ Establish reporting modalities			
	■ Notify the contractor on the Employer's Personnel such as, the Engineer, employees of the Engineer and of the Employer; and any other personnel relevant to the Contract			
	■ Establish roles and responsibilities			
	■ Establish modalities of communication			



For additional information, such as Standard Procurement Documents (SPDs), Guidance, briefing, training and e-learning materials see www.worldbank.org/procurement

