Eskom	SPECIFICATION	Group Capital Division

Title: **Reporting & Data Requirements Specification for Contractors**

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1. Introduction

The Eskom stakeholders require monthly reports on the total capital expansion project portfolio. Therefore, the relevant project management reports and data from the project need to be submitted to Eskom on a monthly basis. This specification also describes the recommended Project Controls requirements that Contractors are to comply with for the development, monitoring change control and close-out of contracts.

To ensure a comparative basis with the Eskom capital expansion portfolio, the project structures and reports needs to be in alignment with the Eskom capital expansion portfolio. The aim of this specification is to describe Eskom requirements for EPC, Turnkey, LMC and EPCM type contracts.

The data and reporting requirements for EPCM and LMC type contracts are also the same and have been documented in section 3.1.

The data and reporting requirements for EPC and Turnkey type contracts are the same and have been documented in section 3.2.

This specification is applicable for the NEC and FIDIC contract system and templates. Where possible, the terminology for both NEC and FIDIC has been used in this specification.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to inform the Contractor of the Reports and Data requirements to be submitted to Eskom and the recommended Project Controls requirements that Contractors are to comply with for the development, monitoring change control and close-out of contracts. Additional requirements can be specified by the Project, should it be necessary. This document does not replace content specific and regulatory type specifications for Safety, Health, Environment or Engineering.

2.1.2 Applicability

This document shall apply throughout Eskom and shall be used as a reference for developing a project-specific specification.

2.1.3 Effective date

This document shall be effective from the authorised date.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems

[2] 32-1 Eskom documentation management policy

[3] 32-644 Eskom documentation management standard

[4] 32-9 Definitions of Eskom documentation

[5] 32-143 Eskom Procedure for handling classified items

[6] 32-6 Eskom document and records management procedure

[7] 32-980 Documents and records management metadata standard for Eskom

[8] 240-44174997 Eskom Long term documentation preservation standard

[9] 240-47961041 Eskom Documentation management glossary

[10] 240-43377258 Eskom Formal documents and records management user requirements specifications

[11] 240-53114186 Eskom Project/Plant Specific Technical Document and Records Management Procedure

[12] 36-943 Engineering Drawing Office and Engineering Documentation Standard

[13] 32-1216 Eskom Process control manual (PCM) for manage documents and records

[14] 240-52879467 Project Delivery Policy

[15] 240-51368570 Cost Management Procedure

[16] 240-51368573 Project Reporting System

[17] 32-391 Integrated Risk Management Standard

[18] 240-108940660 Implementation of Quantitative Uncertainty and Risk Analysis on Eskom Projects

[19] 240-99011698 Project Controls Management Conceptual PCM

2.2.2 Informative

[20] NEC Contract Documentation

[21] FIDIC Contract Documentation

2.3 Definitions

2.3.1 Document Definitions:

Contractor Document Submission Schedule	This schedule contains a list of all the documents to be delivered. The schedule also contains the delivery dates for the various revisions of each document. This is also known as the Vendor Document Requirement List, the Vendor Document Submission Schedule (VDSS) or the Contractor Document Register. Eskom has standardised on the term, Contractor Document Submission Schedule (CDSS).
Contractor	A company or a person that has a contract with Eskom for the provision of work or materials on a project.

Control Account	The Control Account is where scope, schedule and budget is identified within the Integrated Work Break Down (IWBS) Structure and shows the organisation that is responsible for completing the work. The Project Master Schedule consist of all Control Accounts that are vertically and horizontally integrated.
Data Book	The Data Book contains all the manufacturing reports with regard to materials, testing, concessions, drawings, inspection and test plans, non-destructive testing records, operating and maintenance manuals etc and is a key deliverable to the construction of the plant that forms part of the quality management system for both Eskom and the contractor.
Deliverables	Deliverable is a term used in project management to describe a pre-defined, tangible work product to be delivered to a customer (either internal or external). A deliverable may be composed of multiple smaller deliverables and could be a document, server upgrade, data, 3D models. A deliverable differs from a project milestone in that a milestone is a measurement of progress toward an outcome whereas the deliverable is the result of the process.
Engineering Procurement & Construction (EPC)	The employer appoints an engineering company as the single point of contact for the project and gives it the task to prepare design related to construction works. The employer exercises control over the scope of works. In most cases, the engineering company is requested to provide performance guarantees. Risks are carried by the engineering company.
Engineering, Procurement & Construction Management (EPCM)	The Contractor provides Engineering, Procurement and Construction management services. The Contractor assists Eskom with the management of the project. Most of the risk and control of the project is with Eskom. The Contractor assists in the procurement process, but Eskom manages all the contracts. The contract is reimbursable.
Execution Partner	A company appointed to assist Eskom with the management and work on a project. The company is normally appointed via a Professional Services Contract on a reimbursable basis. A partnership where both parties can be jointly & severally liable, depending on the contract.
Inspector	A person that is assigned to inspect the quality of products and work to ensure that the products and work meet the quality, design and safety standards specified.
Integrated Work Break Down Structure	The Integrated Work Breakdown Structure (IWBS) is a combination of both the WBS and Organisational Breakdown Structure (OBS). This tool is used to assign work responsibility to different work groups or individuals. The structure of the IWBS comprises deliverables from the WBS (columns), functional areas/roles from the OBS (rows) and Control Accounts (intersections of rows and columns). The IWBS is where control

	accounts are identified to establish a Performance Measurement Baseline (PMB)
Limited Multiple Contracts with Execution Partners (LMC)	An entire projects scope is divided into packages for which experienced and pre-qualified companies are invited to bid. The winning bidders are awarded execution contracts related to packages. The Execution Partner assists with the management of the work, alternatively an Internal Project Management Organisation can fulfil the role of the execution partner.
Master Document Register	The register of all documents for the total project, managed by the Eskom Project Document Manager.
Native format	The file format which the application works with during edition, creation of publication of a file, MSWord native format is *.doc
Non-Technical documentation	Is any documentation that has to do with the Management, Governance, Development, Commercial, Human Resources and Contract Management of the Project.
Project Change Management Process	The process that is used to manage any scope, cost of schedule changes on a project.
Project Manager	The Project Manager is the designated person that is managing the contract. In FIDIC terms it is the FIDIC Engineer and in NEC terms it is the Project Manager. The Project Manager can appoint a contract manager for the purpose of carrying out contract management specific to the contract.
Recipient	The person that the document is intended for. In the case of a contract, the Project Manager responsible for the contract, will be the recipient of any documentation from the Contractor.
Technical documents	Documentation containing product-related data information that is used and stored. Covers data and information pertaining to, product definition and specification, design, manufacturing, quality assurance, product liability, product presentation, description of features, functions and interfaces, safe and correct use, service and repair of a technical product as well as safe disposal.
Turnkey	The responsibility for the entire project is shifted to a service provider. In this case both control of the works and liability for the project. The project scope can include design, construction, operation and maintenance. Risks are carried by the company appointed to provide turnkey projects. Eskom only administrates the EPC Contract and receives the constructed asset at the end of the project.
Vendor Document Requirement List	Refer to Contractor Document Submission Schedule

Vendor Submission Document (VDSS) Schedule	Refer to Contractor Document Submission Schedule

2.4 Abbreviations

Abbreviation	Explanation
3D	Three Dimensional
AIA	Authorised Inspection Authority
CDSS	Contractor Document Submission Schedule
CE	Compensation event
CPI	Cost Performance Index
CPM	Critical Path Method
DocType	Document type
DOR	Division of Responsibility
DRM	Document and Records Management
DVD	Digital Versatile Disc
EAC	Estimate at Completion
e.g.	Example
EPC	Engineering, Procurement & Construction
EPCM	Engineering, Procurement & Construction Management
EPMO	Eskom Programme Management Office
ERA	Execution Release Approval
ETC	Estimate to Completion
EVM	Earned Value Management
FIDIC	*Fédération Internationale Des Ingénieurs-Conseils* contract templates
GCD	Group Capital Division
GM	General Manager
HR	Human Resources
IDC	Interest during Construction
IR	Industrial Relations
ISO	International Organization for Standardization
IT	Information Technology
ITD	Inception to Date
IWBS	Integrated Work Breakdown Structure
KPI's	Key Performance Indicators
LMC	Limited Multiple Contracts
LTI	Lost time injury
LTIR	Lost time injury rate

Abbreviation	Explanation
3D	Three Dimensional
MMPOS	Mega & Major Project Office Setup
NCR	Non-Conformance Report
NEC	New Engineering Contract
OPCM	Oracle Primavera Contract Management
PBS	Plant Breakdown Structure
PCM	Process Control Manual
PDF	Portable Document Format (Adobe)
PDRA	Project Definition Readiness Assessment
PLCM	Project Lifecycle Model
PM	Project Manager
PMO	Programme Management Office
PMP	Project Management Plan
PRS	Project Reporting System
SAP	Systemanalyse und Programmentwicklung (System Analysis and Program Development) Project Financial Management system
SD&L	Supplier Development & Localisation
SHE	Safety, Health & Environment
SPF	SmartPlant Foundation
SPI	Schedule Performance Index
VDSS	Vendor Document Submission Schedule, refer to CDSS
VO's	Variation Orders
T-CPI	To-complete-performance
WBS	Work Breakdown Structure
XER	Primavera P6's proprietary exchange format Header
Yr	Year
YYYMMDD	Year Month Day

2.5 Roles and Responsibilities

The Project Manager will ensure that this specification is issued to the Contractor with the Request for Proposal. The Project Control Manager will ensure that the Contractor understands and complies with this specification during the duration of the contract. The Group Capital EPMO Manager will ensure that the specification is revised and kept current.

2.6 Process for Monitoring

Compliance to the specification will be assessed during the management of the Contract, utilising the Contract Management processes and procedures.

2.7 Related/Supporting Documents

Not applicable

3. Document Content

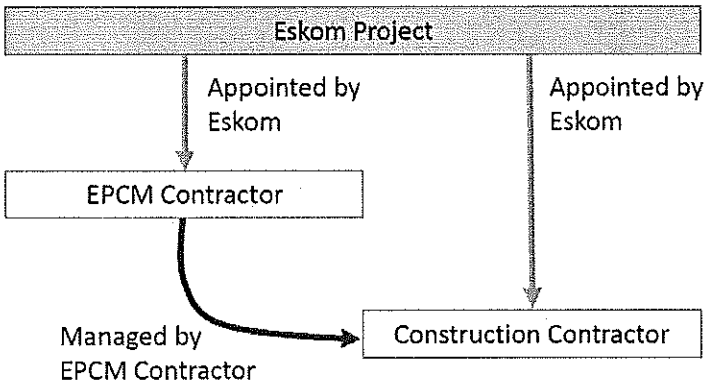
3.1 Eskom Project Management Requirements for an EPCM & LMC type contracts

The following sections describe the various reports and data required.

3.1.1 High-level description of EPCM in the Eskom Environment

The following is an illustration of EPCM applied in the Eskom environment. Eskom appoints the EPCM and Construction Contractors. The EPCM Contractor is then instructed to manage the Eskom appointed Construction Contractor.

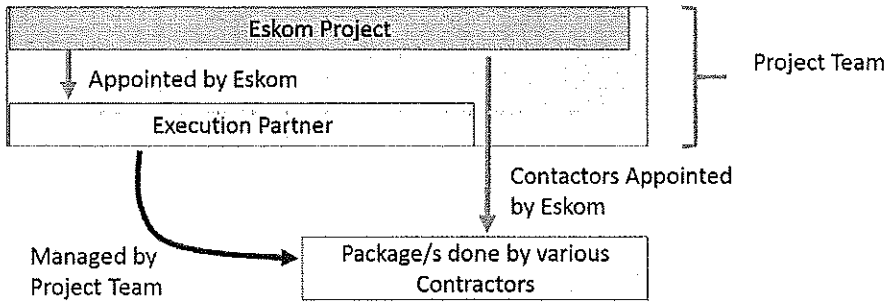
EPCM in the Eskom context



3.1.2 High-level description of LMC in the Eskom Environment

Eskom appoints an Execution Partner to assist with the total project. The entire project scope is divided into packages for which experienced and pre-qualified companies are invited to bid. The winning bidders are awarded execution contracts related to packages. The risks are carried by the overall project. The Execution Partner assists with the work and the management of the project. It is also possible to use the LMC approach without an Execution Partner.

LMC in the Eskom context



3.1.3 Contractors Project Management Methodology (Policies, Procedures, Standards and Work Instructions)

The Contractor will comply with Eskom's project management methodology comprising of Policies, Procedures, Standards and Work Instructions to execute the project. Policies, Procedures, Standards and Work Instructions that involve working or dealing with Eskom will be issued by Eskom to the Contractor during project setup.

The LMC Contractor shall take responsibility for conducting and reporting on Risk Management, according to the Eskom Standard, to enable the contractor to accomplish the deliverables as per the contract Scope of Work. The Contractor shall provide Eskom with data to conduct an independent Quantitative Risk Analysis.

The EPCM contractor shall make provision for conducting a Quantitative Risk Analysis as and when requested by Eskom. The EPCM Contractor shall take responsibility for conducting and reporting on Risk Management including Quantitative Risk Analysis, according to the Eskom Standard, to enable the contractor/s to accomplish the deliverables as per the contract Scope of Work. The Contractor shall provide Eskom with data to conduct an independent Quantitative Risk Analysis.

3.1.4 Work Breakdown Structure

The Work Breakdown Structure (WBS) as referenced in the Works Information shall be used for cost structure and the schedule structure and shall align with the PS5 cost schedule. The Contractor will provide the detail WBS to reflect the entire scope of the project that will be used to develop the Integrated Work Breakdown Structure (IWBS). The (IWBS) for the project, based on the final contracted scope of work, will be jointly developed by Eskom Project Controls and the contractor and will be agreed and finalized with the Contactor within 30 calendar days (or as stated within the contract document) after contract award. The Contractor shall adhere to the IWBS. Any required changes will be submitted as a project change request and will be managed via the Project Change Management approval process.

The IWBS will be based on a deliverable structure, typically high level items based on System and Sub-system detail or for other types of work e.g. Civil & Building work.

The following is an example of a typical deliverable based on an IWBS structure.

CODE LEVELS	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
CODE LEVEL DESCRIPTION	Project	PLCM Phase	Unit	System / Package	Subsystem	Discipline

The System/Sub-system codes are related to the Plant Breakdown Structure. As an example, within a Coal Fired Power Station, the system can be the Pressure Parts System and the sub-system the economiser system. The deliverable can then be the design and construction of the economiser system.

This coding structure will be used for cost and schedule integration.

3.1.5 Documentation and Records Management Reporting & Data Requirements

The Eskom Documentation Management is governed by the following documents:

- 32-1 Eskom documentation management policy
- 32-644 Eskom documentation management standard
- 32-9 Definitions of Eskom documentation
- 32-143 Eskom Procedure for handling classified items
- 32-6 Eskom document and records management procedure
- 32-980 Documents and records management metadata standard for Eskom
- 240-44174997 Eskom Long term documentation preservation standard
- 240-47961041 Eskom Documentation management glossary
- 240-43377258 Eskom Formal documents and records management user requirements specifications
- 240-53114186 Eskom Project/Plant Specific Technical Document and Records Management Procedure
- 36-943 Engineering Drawing Office and Engineering Documentation Standard
- 32-1216 Eskom Process Control Manual (PCM) for management of documents and records
- 240-66523971 Project Deliverables Process Control Manual (PCM)

3.1.5.1 Submission of Documentation to Eskom Project

The Contractor must submit the Contractor Document Submittal Schedule (CDSS) to the Project Manager within 30 calendar days of contract award. The Project Manager will submit the CDSS to Project Documentation Management. Project Documentation Management is then responsible to manage the schedule i.e. creates a document register that will be used to track submission progress of documentation by the Contractors as per the committed dates on the CDSS.

a. All documentation will always be submitted with a signed transmittal. The transmittal will have the following minimum attribute/information:-
    1. Title of the document
    2. Document Unique Identification number
    3. Revision number

4. Reason for issuing\submission
5. Sender's detail
6. Sent date
7. Recipient's Details
8. Date received
9. Quantity of documentation referenced on the transmittal
10. Number of copies
11. Format/medium submitted (eg: paper, DVD, etc)
12. Sender signature
13. Recipient signature, once submitted, to acknowledge receipt

b. The documentation will be submitted to the Project Manager as well as the Project's Documentation Centre in the following media:
    1. Electronic copies will be submitted via the project contract generic email address (e.g.: [project name contract]@eskom.co.za) or delivered to the Project Documentation Centre on a DVD. The Recipient (e,g. Project Manager) will be copied on the email as well. All documentation will be submitted as electronic copies. The project office shall confirm the correct email address to the Contractor.

    2. Electronic copies too large for email, will be delivered on DVD to the Project Documentation Centre. A notification will be sent to the project generic email address (e.g.: [project name contract]@eskom.co.za The Recipient will be copied on the email as well. Should the files be too large for a DVD, the project will arrange for a large file transfer site on request of the contractor.

    3. Hard copies must be submitted to the Project Documentation Centre. An email to the project generic email address and the Project Manager will support the submission of hard copies. The Recipient will be copied on the email as well. The submission of hard copies will be minimised. The Contractor Document Submission Schedule will indicate the requirement for hard copies.

    4. The format of the final documentation handover will be specified in the project handover specification. As a minimum the Contractor Handover Data Book will be delivered as 1 hard copy (refer to 3.1.7.11 Handover Data Requirements for more information) and 4 sets of electronic copies.

3.1.5.2 Identification of the Documentation

The document will have the following as a minimum attributes on the cover page:

- Title of the document
- Document Unique Identification number (Eskom number)
- Contractor Document number, if applicable

- Document status
- Revision number
- Document Type
- Document security level
- Page number on the footer
- Document Author/Authoriser/
- Document Originator Contractor

The following additional attributes are important for technical documents:

- Package/System name, sub-system if applicable
- Unit/s number
- Contractor name
- Contractor number
- Plant Identification Codes

3.1.5.3 Project Communication

All project communications (e.g. letters, faxes) shall be copied to the project contract email address (e.g: [project name contract]@eskom.co.za). This will ensure that all communications is captured. The sender shall identify the responsible person as well as the project package number and relevant WBS in the email.

3.1.5.4 Reporting and Tracking of Documentation

The Eskom Project documentation management team will maintain a Master Document Register to ensure that the documentation received from the Contractor is registered according to the schedule and that the documentation is of the specified quantity and quality. The final document requirements (format, submission process, etc.) will be discussed with the Contractor during the contract kick-off meeting.

The Contractor will submit a preliminary Contractor Document Submittal Schedule (CDSS) within 30 calendar days of contract award. The Eskom Project documentation management team and the Contractor will agree and finalise the CDSS and the information will be included in the project Master Document Register.

The progress and status of the documentation submissions will be managed and reported from the Master Document Register. The reports will be communicated between the Contractor and the Eskom Project team, once a month as minimum, and as and when the need arises in between. The contractor document submission progress reports will be issued to the relevant Project Manager for inclusion in the contract progress reports. The Contractor will be required to submit transmittal registers, once a month as a minimum, and as and when the need arises in between to track and verify documentation submissions to the Project Documentation Centre.

3.1.5.5 Documentation Storage

With regard to Project Documentation, the Contractor will utilise the Eskom documentation management system, Hyperwave and SmartPlant Foundation for Owner Operators (SPO) as categorised. The Contractor will utilise the SPO document taxonomy for the Project. The taxonomy will be created for Contractor documentation and issued to the Contractor within 30 calendar days of contract award. The Contractor will be given access to this taxonomy on SPO.

The Contractor Document Submission Schedule will specify which documentation will be stored in SPO. The Contractor Document Submission Schedule will be finalized within 60 calendar days after contract award. Hard copy documentation shall be stored in the Project Documentation Centre.

With regard to Project Technical Documentation, all technical documentation shall be managed in the Eskom engineering document and configuration management system, SPO, as per the Engineering Specification or systems as otherwise specified. Eskom Engineering utilises SPO. Refer to procedure 240-53114186 for the definition of technical documentation. The Contractor will utilise the Eskom instance of SPO Foundation. The taxonomy will be issued to the contractor within 30 calendar days of contract award. The Contractor Document Submission Schedule will specify which documentation will be stored in SPO Foundation. The Contractor Document Submission Schedule will be finalized within 60 calendar days after contract award.

Hard copy documentation shall be stored in the Project Documentation Centre according to the engineering filing plan.

3.1.5.6 Naming of files

The Contractor will comply with the Eskom standard for naming documentation files. The standard is as follows:

- For documents that have approval date and signature
  (YYYYMMDD_DocType_DocumentTitle_Unique Identifier_Revision.FileExtention)

- For documents that do not necessarily require the 'Approved Date' and 'Revision & Versioning', use the date of update
  (YYYYMMDD_DocType_DocumentTitle_Unique Identifier_Revision.FileExtention)

3.1.6 Project Management Plan Requirements

The Contractor will submit the Contractors Project Management Plan for the Project to Eskom for approval within 30 calendar days after contract award. Eskom will comment on or approve the PMP within 30 calendar days after receipt.

The Contractor will revise the Contractors PMP for final Eskom approval within 2 weeks after receiving Eskom's comments. The Contactor will manage the project in accordance with the approved PMP.

Eskom will submit the template of the Contractors PMP to the Contractor prior to contract award. The PMP addresses the following areas as a minimum:

- Project Management, including Project Change Management and project organisation
- Project Controls, includes:
  - Cost Management
  - Planning and Scheduling
  - Estimating
  - Quantity Surveying
  - Contract Administration
  - Project Integration Management
  - Risk Management
  - Site related stability programs related to communities

- Stakeholder management and project communications
- Supply chain management, including procurement, contract management and logistics
- Project Reporting
- Project Information Management, including Project Document Management and Knowledge Management
- Health & Safety
- Environmental Management
- Quality Management
- Site Management
- Engineering & Design Management, Configuration Management
- Resources
- Project Codes and breakdown structures
- Progress measurement
- Contractor Document Submission Schedule
- Licensing and Permits

3.1.7 Monthly Project Management Reports & Data Requirements

The Contractor will submit a monthly progress report and associated data, relevant to the Contract Scope of Work. The report and data must be submitted by the 10th of each month. Eskom will comment on the monthly report within 10 calendar days from receipt. The report will be submitted in PDF format, signed by the Contractor Project Manager. Each monthly report shall also include a PowerPoint presentation that summarises the project status.

The report will consist of the following sections and contains the summary information from the detail reports:

- Executive summary
- Project Description
- Cost Management (e.g. cost flow, ETC, cost variations)
- Total Project Cost
- Project Changes, including site instructions
- Planning & Scheduling Management (e.g. one and three month look-ahead, actual & physical progress, critical path, top 10 critical paths).
- Contract Management (e.g. variations/claims/compensation events listed, justified, rejected &/or processed)
- Finance (e.g. payment status report)
- Construction Management (e.g. Contractors Daily Diary, main issues)
- Safety, Health and Environment
- Quality Management (Quality Control and Quality Assurance activities, including the Inspection and Test Plan)
- Human Resources and Industrial Relations
- Supplier Development and Localisation (SD&L) – local development
- Risk Management
- Stakeholder and Community Management
- Knowledge Management
- Colour photographs in electronic format showing project progress. Photos will be individually marked with the date, description and direction of view.
- Resources (e.g. detail of actual and planned resources)

- Contractor Permitting Summary
- Licensing and Permits
- Documentation Management (e.g. progress against CDSS in terms of submitted, received, rejected).

The Project Management Report and Data format is described in the following sections.

3.1.7.1 Project Management Dashboard Reporting & Data Requirements

The project reporting requirements are the following:

- The contractor will complete the Eskom Dashboard excel template, relevant to the Contractors Scope of work, for inclusion in the Eskom Project Reporting System
- The report will be submitted in PDF and native format
- Eskom will submit the template of the Portfolio Management Dashboard to the Contractor within 30 calendar days after contract award.
- Eskom may from time to time revise the format of the Dashboard
- The Dashboard report will be submitted monthly
- The Eskom Programme Manager is accountable for the submission of the Dashboard and Project Report to the Eskom Management Team. The Contractor will provide all information relevant to the Contractor's scope of work for the report
- The Dashboard contains the following sections:
    - Project Description
    - Project Highs, Lows & Critical Concerns
    - Project Manager, Engineering Manager and / or Site Manager Statements, i.e. narrative / description of overall view and summary of project performance / how well the project is progressing (this will assist in contextualising all the numbers and figures captured in the report).
    - Safety, Health and Environmental statistics
    - Schedule progress and Schedule Performance Index for Engineering, Procurement, Commissioning, Construction and the overall project as agreed in the contract terms and conditions (% planned, % earned and % spent)
    - Productivity and Cost Performance index for Engineering, Commissioning, Construction, Procurement and the overall project
    - Quality - main issues and concerns
    - Key Milestones
    - Cost Management reporting for the month, year to date and year end:
        - Budget
        - Projection
        - Actual
        - Variance
        - Performance
    - Total Project Cost: Provide an overview of the total budgets and forecasted Estimate at Complete costs by major category; i.e. Owners Development Cost, Other Costs, Construction Contracts, Contingency and Interest during Construction:
        - Current approved budget (Eskom ERA)
        - Budget at completion
        - Committed costs
        - Estimate at completion
    - Risk Matrix and Level 1 Risk Table

- Variation Orders/Compensation Events/Claims
  - Approved Variations
  - Approved Claims
  - Pending/Potential Variation Orders, Claims or CE's

The following diagram illustrates the current Dashboard template:

Project Name — **April 2014**

Cost Center	Project Name	Project Phase	Location	Portfolio
Facility Capacity	**Project Description**		**Programme**	**Project Type**

PDRA Score / Date	Project Leadership		
High's	**Low's**		**Critical Concern's**

Safety

	Eskom			Contractor		
	LTI	LTIR	Fatalities	LTI	LTIR	Fatalities
Monthly						
Rolling 12 mos.						
ITD						

Productivity / Cost Performance Index

	Project	Engineering	Construction
Monthly			
ITD			

Schedule

	Engineering	Procurement	Construction	Project
Planned				
Earned				
Deviation				
SPI				

Quality

Score		PM Concerns?	Yes
ISO Status		Training Status	

Key Milestones

Key Milestones	Current ERA Plan	Current Integrated Programme	Project Forecast	Weeks Delta

Cost Mgmt (In Millions, excludes IDC)

	Month	Yr to Date	Year End
Budget	R 0,00	R 0,00	R 0
Projection	N/A	N/A	R 0
Actual	R 0,00	R 0,00	N/A
Variance	0	0	R0,0
Performance	0	0,00%	100,00%

Total Project Cost (in Millions)

	Owner Development Cost	Other Costs	Construction Contracts	Contingency	Total Project w/o IDC	Total Project w/ IDC
Current ERA						
Budget @ Completion						
Committed Costs						
Estimate @ Completion						
Variance (Current ERA -						

Figure 1 Project Dashboard Template Example

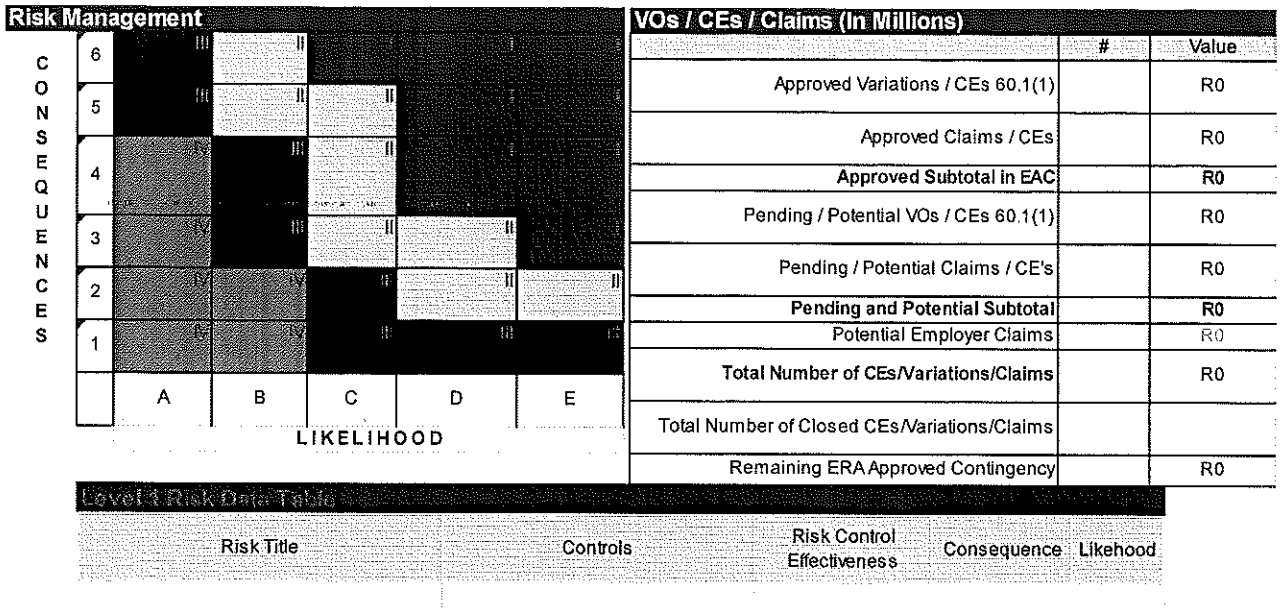


Figure 1: Project Dashboard Template Example (cont.)

3.1.7.2 Planning & Scheduling Management Reporting & Data Requirements

The Planning & Scheduling requirements are the following:

- The schedule will be managed in Primavera P6 15.2 or latest version.
- The schedule must be based on the agreed WBS and the activities must be coded according to the agreed IWBS.
- The activities shall be deliverable based.
- The method of scheduling to be used is the CPM (Critical Path Method) and shall be maintained throughout the monitoring and controlling and close out of the contract.
- The Contractors schedule shall be a resource loaded schedule (to be submitted at tender phase for acceptance).
- The progress measurements method will be agreed with the Contractor.
- Once the schedule has been accepted by the Project Manager (i.e cost loaded according to the pricing structure), the schedule shall be baselined.
- The accepted schedule sequence will be closely monitored and out of sequence works shall be kept to the minimum, reflect the constructability, and shall timeously submitted for approval by the Eskom Project Manager.
- The Contractor shall submit the schedule technical checklist for ensuring that the schedule meets best practice scheduling (14 point health check) criteria and supports the Critical Path Method (CPM).
- The schedule must contain sufficient detail to be able to apply the Earned Value Methodology and to supply Eskom with the relevant data as required by this specification.
- The Contractor will provide Eskom with a copy of the schedule (in Primavera P6 electronic format), with sufficient detail to the working level activities, for inclusion in the Eskom project master schedule.
- The Contractor schedule will be coded with integration codes, supplied by Eskom that will enable the integration with the master schedule. The Contractor will maintain the integration codes in the Contractor schedule throughout the contract.

- The Contractor must submit the list of Project Milestones to the Eskom Project Manager for approval 30 calendar days after contact award with the detailed construction schedule.
- The prefix to be used for all calendars, resource, activity and cost codes will be specified by Eskom within 30 calendar days of contract award. The prefix will be used in the programme to assist with the import of schedules into the Eskom centralised environment. The following is an example of the codes:
    - GC_ING_CMI_xxxxx translates to Group Capital_Project_Contractor_Code
- The Contractor will use the agreed calendars and hours per time period. This will be agreed within 30 calendar days of contact award. The schedule calendar shall be according to the defined working time as per the project Works Information.
- Interim milestones or interface dates between milestones will be clearly identified and documented.
- The schedule shall make provision for all allowances as per the Works Information. .
- The schedule will clearly show the interrelationship of all activities and shall include logic-linked annotated bar charts (Gantt charts). In relation to each activity the following minimum information shall be presented:
    - Identification number
    - Description (descriptive enough to identify plant and area per activity)
    - Duration in working days which should correspond to the project overall durations as appropriate
    - Early start and early finish dates
    - Calendar
    - Bar indication early start date, early finish date and duration
    - Total float
    - Periods of inactivity
- The Contractors progress schedule shall coincide with the cost assessment cycle and will be submitted as a minimum on a monthly basis or as per contractual conditions. The Planning & Scheduling monthly progress report will contain the following:
    - Planned Dates vs Current Dates for main, agreed activities, percentage complete, physical percentage complete and remaining duration
    - Variances, explanations for variances and proposed corrective actions, time impact analysis of each variance (change or delay)
    - 30 day and 90-day Look Ahead schedule report for main, agreed activities, longest path activities, full schedule of outstanding work, milestone status report, resource histogram, report on calendars used
    - Earned Value Management report
    - Progress shall be submitted for Engineering, Procurement, Commissioning, Construction and shall be included in the Contractor Document Submission Schedule
    - The reports will be in PDF and native format
    - The XER program file of the schedule shall be submitted via a clearly identified medium e.g permanent format that cannot be over written or modified or changed
    - The baseline in PDF format
    - Narrative report of all changes and movement within the schedule
    - Printout presenting calendar information in PDF format
    - Schedule indicating which Bill of Quantities items corresponds with which activity. Each relevant activity shall have Bill of Quantity items assigned to it in the schedule, if applicable
    - Contractor Document Submittal Schedule (please refer to Documentation Management for more information)

- Commissioning activities shall be included in the accepted baseline schedule.
- The following will be submitted on a weekly basis:
  - 2 week look-ahead reporting indicating the current week progress and the next 2 week planned work
- The Contractor will attend the following progress meetings:
  - The Contractor will be required to attend regular site meeting with the Project Manager and Supervisor where the progress of construction will be reviewed. These meetings are normally held monthly
  - The Contractor will attend weekly progress meetings. The Contractor will provide a two-week look-ahead report as well as the progress achieved over the preceding week that is submitted 1 work day before the meeting

3.1.7.3 Cost Management Reporting & Data Requirements

The Cost Management requirements are the following:

- The Deliverables per IWBS must be priced and submitted to Eskom within 30 calendar days after contract award
- The contract value shall be time phased according the approved baseline schedule, to create the approved Performance Measurement Baseline (PMB), The PMB shall be maintained until contract closeout
- The reports will be in PDF and native format
- Progress measurement must be based on the Deliverables and Earned Value Management (EVM) techniques must be applied:
  - For Tangible measures the method will be agreed with Eskom
  - For In-tangible measures the Level of Effort or Apportioned Effort may be applied
- All standard EVM variances indicators and indices will be reported upon, including:
  - Cost Performance Index (CPI) including the variance explanations
  - Schedule Performance Index (SPI) including the variance explanations
  - Planned Values vs Earned Values including the variance explanations (Schedule Variance)
  - Monthly Actual vs Earned Values including the variance explanations (Cost Variance)
  - Year to Date Actuals vs Budgeted Project Cost including the variance explanations
  - Project Cost at Completion (EAC) vs Planned Budget including the variance explanations
  - Project Cost Estimate to Completion (ETC), monthly, vs Planned Budget including variance explanations
- Analysis techniques will be applied to:
  - Explain deviations from Planned Budget and show performance requirements
    - To-complete-performance (T-CPI) using Cost (CPI) and Schedule (SPI) performance
  - Propose corrective actions
- For payments using the Eskom SAP system:
  - Actual Costs as processed within SAP must be used for reporting purposes – this will be linked to the IWBS
  - Any incorrect entries into SAP must be reported for corrections that will be done by Eskom Finance
- Assumptions for changes to Forecasting data to be documented and supplied with the Cost Flow Forecast

- Forecasted rate of invoicing to be verified with cost loaded P6 Schedule in relation to the Cost Flow Forecast
- The following reports must be submitted on a monthly basis:
  - Detail Cost Report as per format provided by Eskom
  - Progress and Performance reports (Physical % complete, Schedule Variance, Cost Variance, Schedule Performance, Cost Performance) – including Variance explanations
  - Project Cost at Completion (EAC) and Project Cost Estimate to Completion (ETC) per IWBS (ETC to show monthly figures.
  - Corrective action recommendations

3.1.7.4 Contract Management Reporting & Data Requirements

The requirements are detailed in the formal contractual documentation. Refer to the relevant NEC and relevant FIDIC contract terms and conditions for specific details. The following provides a guideline for the reporting requirements for Contract Management purposes for the duration of the Contract.

- The reports will be in PDF and native format
- List of Compensation Events (linked to IWBS per Currency), and the status of the events, for NEC contracts
- List of Variations (linked to IWBS per Currency), and the status of the variations for FIDIC contracts
- List of Claims submitted (linked to IWBS per Currency), with status and mitigation measures
- All of the above must be justified and quantified (Cost and Schedule impact) and submitted in the agreed formats
- All related contract documentation must be packaged and handed over for management within Hyperwave or SPO as per the agreed Contractor Document Submission Schedule
- All Payment Certificates will be processed according to the IWBS Deliverables per Currency
- All SD&L reports to be completed and submitted in the format provided at tender stage
- Contractually agreed information will be submitted to the Contract Management for review, re-measurements and approval
- The Contractor will submit all site generated documents, e.g. signed daily diaries, site instruction, to the Project Manager, and copy the Project Documentation Centre

3.1.7.5 Safety Health and Environment Reporting & Data Requirements

The SHE requirements are the following:

- The reports will be in PDF and native format
- The list of SHE Key Performance Indicators (KPI's) and their respective formulae's to be reported on will be made available to the Contractor prior to contract award
- All incidents and Lost Time Injuries will be reported monthly. Fatalities will be reported within 24 hours
- The incident report shall include the root cause of the incident, with its corrective actions and implementation dates
- Environment reports will comply with the Environmental Authorisation for the specific site
- All SHE reports will comply with International Funding Arrangements requirements

3.1.7.6 Quality Management Reporting & Data Requirements

The Quality requirements are the following:

- List of Quality Control Plans and progress status
- List of NCR's raised and resolutions
- List of Defects and resolution status
- Inspection plans and status of plan
- The reports will be in PDF and native format

3.1.7.7 Human Resource and Industrial Relations Reporting & Data Requirements

The HR and IR requirements are the following:

- The reports will be in PDF and native format
- List of HR issues which may impact the project, and its mitigation
- Report on Skills Development and Skills Transfer as per Skills Development Plan, including training of Eskom and non-Eskom personnel
- List of IR issues which may impact the project, and its mitigations
- Strike notification and status of work force in terms of stability, unrest, general labour issues

3.1.7.8 Risk Management Reporting & Data Requirements

The Risk Management requirements are the following:

- The reports will be in PDF and native format
- Risk records in the Eskom GCD Project Risk Management format (likelihood, consequence and risk rating scales)
- Cost of treatment actions
- Risk movement over time
- Pre and post treatment risk positions
- Pre and post treatment schedule and cost risk impacts
- Risk profiles detailing:
    - Risk matrix showing top 10 risks
    - Risk matrix showing level I and level II risks
    - All risks and treatment actions in table report format
    - Breakdown of risks according to risk status
- The Contractor must utilise the Eskom approved project risk management process and system
- Risk records per package and at the project level
- Risk description.
- For Cost and Schedule related risks, WBS (Activity) Code impacted by the risk.
- P50 and P80 estimates from a Quantitative Risk Analysis exercise, based on the Monte Carlo Statistical Sampling technique, for:
    - Uncertainty only (i.e. no risk impacts)
    - Pre risk-treatment
    - Post risk-treatment

3.1.7.9 Stakeholder and Community Management Reporting & Data Requirements

The Stakeholder and Community Management requirements are the following:

- The reports will be in PDF and native format
- Report on stakeholder engagements, issues and mitigation actions
- Report on local community engagement, issues and mitigation actions
- Supplier Development and Localisation (SD & L) and Corporate Social Investment (CSI) initiatives related to the project (spend, job creation numbers by applicable category)

3.1.7.10 Knowledge Management Reporting & Data Requirements

The Knowledge Management requirements are the following:

- The reports will be in PDF and native format
- List of Lessons Learned during the reporting period
- List of Project Policies, Procedures, Standards and Work Instructions that had been revised to encapsulate Lessons Learnt

3.1.7.11 Handover Data Requirements

All technical documentation and information (design, warranty, and operational information) must be handed over in both native format and PDF format. The detail handover requirements will be discussed at the contract kick-off meeting. The Engineering Functional Specification details the technical documentation requirements. The project will develop a detailed Handover Check List that will be used during Handover.

The Contractor will compile a Handover Data Book of all plant and materials. The Handover Data Book will be compiled per project package. If the contract groups several distinctly different units or pieces of Plant and Materials under the same package, one Handover Data Book for each package unit or piece of Plant and Materials shall be prepared by the Contractor. One Handover Data Book for each lot of Plant and Materials (bulk materials e.g. piping, instruments) shall be produced. The Handover Data Book will be completed during procurement, fabrication, construction and production in accordance with the agreed project instructions and inspection criteria. The Inspector appointed to the Contract and the AIA inspector shall check and stamp documents as they are made available after each inspection or testing.

The Handover Data Book will submitted in electronic format at the start of Cold Commissioning. The Data Book will be reviewed and comments issued. The Data Book will be submitted electronically after Hot Commissioning for final review and update. The Data Book register shall be developed from the contract award and maintained and updated on a monthly basis. The contractor shall provide a monthly report on the progress of Data Books. The fully completed Data Book shall be handed over before commercial operation. The Handover Data Book will be provided as one final hard copy. The final hard copy will be delivered once all the information has been verified and accepted. The hard copy will contain all relevant signatures. Four electronic copies on DVD will be issued with the hard copy.

The Handover Data Book Table of Contents will contain as a minimum and as applicable, the following items:

a) Quality Assurance
   - Quality Control Plans and/or Inspection And Test Plans (Completed)
   - Concession Requests
   - Non-Conformance/Defects Reports and Corrective Action Reports
   - Inspection Reports
   - Weld Procedures And Weld Maps

- Weld Procedures Specification
- Weld Procedure Qualification Record
- Welders' Qualifications
- Test Procedures
- Test Reports
- Punch/defects lists
- Check lists
- Risk Assessments
- Vendor document requirement list

b) Certificates
- Contractor Certificate Of Conformance
- Code Certificates
- Material Certificates and material maps
- Calibration Certificates
- Pressure Test Certificates
- Heat Treatment Certificates
- All Other Test Certificates
- Client Acceptance Certificate

c) Drawings and calculations
- Certified, signed and accepted drawings ("as built")
- Design calculations or review acceptance report
- Equipment (mechanical, electrical, instrumentation) specifications and datasheets
- Pipe and Instrumentation Diagrams

d) Commissioning
- Cold and Hot commissioning procedures
- Start-up and Shut-down procedures and check lists
- As-built drawings
- Data Books
- Operating and Maintenance Manuals
- Recommended spares list.

e) Operating Procedure
- Detailed Operating Procedures

f) Maintenance
- Maintenance requirements and Procedures
- Critical Spares List

g) Training Manuals
- Training requirements with supporting training material
- Signed off registers of staff trained

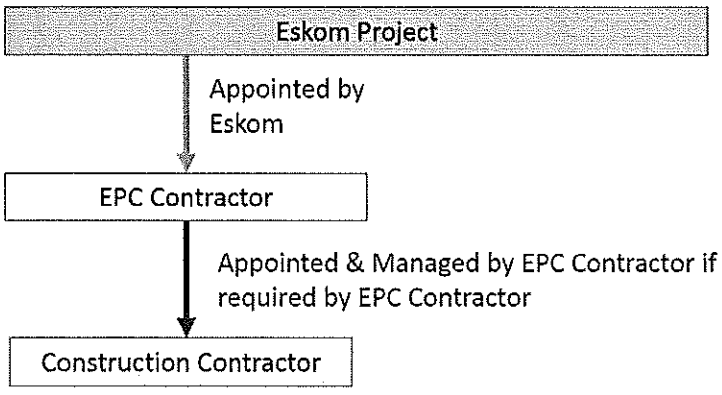
3.2 Eskom Project Management Requirements for an EPC and Turnkey type contract

The following sections describe the various reports and data required.

3.2.1 High-level description of EPC in the Eskom Environment

The following is an illustration of EPC applied in the Eskom environment. Eskom appoints the EPC Contractor. The EPC Contractor is then responsible for the work and can appoint its own Contractors.

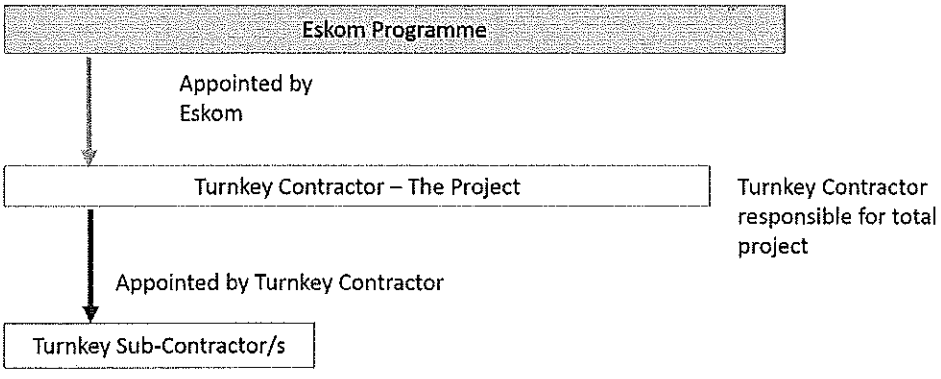
EPC in the Eskom context



3.2.2 High-level description of Turnkey in the Eskom Environment

The contract is placed with one Contractor for the full project. The Contractor is responsible for the entire project. The Contractor is responsible for both control of the works and liability for the project, including design, construction, operation and maintenance. Risks are carried by the Contractor appointed.

Turnkey in the Eskom context



3.2.3 Contractors Project Management Methodology (Policies, Procedures, Standards and Work Instructions)

The Contractor will utilize its own Policies, Procedures and Work Instructions to execute the project based on Project Management best practices and Project Controls Best practice. Should it be necessary, the Contractor must revise the methodology to accommodate the requirements described in this specification. Eskom reserves the right to conduct a compliance and assurance check as and when required. Policies, Procedures and Work Instructions that involve working or

dealing with Eskom will be issued to Eskom during project setup. The Contractor shall take responsibility for Risk Management including the application of Quantitative Risk Analysis. The Contractor shall provide Eskom with Data to conduct an independent Quantitative Risk Analysis as and when requested by Eskom.

3.2.4 Work Breakdown Structure

The Work Breakdown Structure (WBS) as referenced in the Works Information shall be used for cost structure and the schedule structure and shall align with the PS5 cost schedule. The Contractor will provide the detail WBS to reflect the entire scope of the project that will be used to develop the Integrated Work Breakdown Structure (IWBS). The (IWBS) for the project, based on the final contracted scope of work, will be jointly developed by Eskom Project Controls and the contractor and will be agreed and finalized with the Contactor within 30 calendar days (or as stated within the contract document) after contract award. The Contractor shall adhere to the IWBS. Any required changes will be submitted as a project change request and will be managed via the Project Change Management approval process.

The IWBS will be based on a deliverable structure, typically high level items based on System and Sub-system detail or for other types of work e.g. Civil & Building work.

The following is an example of a typical deliverable based on an IWBS structure.

CODE LEVELS	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
CODE LEVEL DESCRIPTION	Project	PLCM Phase	Unit	System / Package	Subsystem	Discipline

The System/Sub-system codes are related to the Plant Breakdown Structure. As an example, within a Coal Fired Power Station, the system can be the Pressure Parts System and the sub-system the economiser system. The deliverable can then be the design and construction of the economiser system.

This coding structure will be used for cost and schedule integration.

3.2.5 Documentation and Records Management Reporting & Data Requirements

The Eskom Documentation Management is governed by the following documents:

- 32-1 Eskom documentation management policy
- 32-644 Eskom documentation management standard
- 32-9 Definitions of Eskom documentation.
- 32-143 Eskom Procedure for handling classified items
- 32-6 Eskom document and records management procedure
- 32-980 Documents and records management metadata standard for Eskom
- 240-44174997 Eskom Long term documentation preservation standard
- 240-47961041 Eskom Documentation management glossary
- 240-43377258 Eskom Formal documents and records management user requirements specifications

- 240-53114186 Eskom Project/Plant Specific Technical Document and Records Management Procedure
- 36-943 Engineering Drawing Office and Engineering Documentation Standard
- 32-1216 Eskom Process Control Manual (PCM) for management documents and records
- 240-66523971 Project Deliverables Process Control Manual (PCM)
- 32-1216 Eskom Process Control Manual (PCM) for manage documents and records

3.2.5.1 Submission of Documentation to Eskom Project Office

The Contractor must submit the Contractor Document Submittal Schedule (CDSS) to the Project Manager within 30 calendar days of contract award. The Project Manager will submit the CDSS to Project Documentation Management. Project Documentation Management is then responsible to manage the schedule i.e. creates a document register that will be used to track submission progress of documentation by the Contractors as per the committed dates on the CDSS.

a. All documentation will always be submitted with a signed transmittal. The transmittal will have the following minimum attribute/information:-
    1. Title of the document
    2. Document Unique Identification number
    3. Revision number
    4. Reason for issuing\submission
    5. Sender's detail
    6. Sent date
    7. Recipient's Details
    8. Date received
    9. Quantity of documentation referenced on the transmittal
    10. Number of copies
    11. Format/medium submitted (eg: paper, DVD, etc)
    12. Sender signature
    13. Recipient signature, once submitted, to acknowledge receipt

b. The documentation will be submitted to the Project Manager as well as the Project's Documentation Centre in the following media:
    1. Electronic copies will be submitted via the project contract generic email address (e.g.: [project name contract]@eskom.co.za) or delivered to the Project Documentation Centre on a DVD. The Recipient (e,g. Project Manager) will be copied on the email as well. All documentation will be submitted as electronic copies. The project office shall confirm the correct email address to the Contractor.

    2. Electronic copies too large for email, will be delivered on DVD to the Project Documentation Centre. A notification will be sent to the project generic email address (e.g.: [project name contract]@eskom.co.za The Recipient will be copied on the email as well. Should the files be too large for a DVD, the project will arrange for a large file transfer site on request of the contractor.

3. Hard copies must be submitted to the Project Documentation Centre. An email to the project generic email address and the Project Manager will support the submission of hard copies. The Recipient will be copied on the email as well. The submission of hard copies will be minimised. The Contractor Document Submission Schedule will indicate the requirement for hard copies.

4. The format of the final documentation handover will be specified in the project handover specification. As a minimum the Contractor Handover Data Book will be delivered as 1 hard copy (refer to 3.1.7.11 Handover Data Requirements for more information) and 4 sets of electronic copies.

3.2.5.2 Identification of the Documentation

The document will have the following as a minimum attributes on the cover page:

- Title of the document
- Contractual clause under which the document arises
- Document Unique Identification number
- Document status
- Revision number
- Document Type
- Document security level
- Page number on your footer
- Document Author/Authoriser/
- Document Originator Contractor

The following additional attributes are important for technical documents:

- Package/System name, sub-system if applicable
- Unit/s number
- Contractor name
- Contractor number
- Plant Identification Codes

3.2.5.3 Project Communication

All project communications (e.g. letters, faxes) shall be copied to the project contract email address (e.g.: [project name contract]@eskom.co.za). This will ensure that all communications is centralised. The sender shall identify the responsible person as well as the project package number and relevant WBS in the email.

3.2.5.4 Reporting and Tracking of Documentation

The Eskom Project documentation management team will maintain a Master Document Register to ensure that the documentation received from the Contractor is registered according to the schedule and that the documentation is of the specified quantity and quality. The final document requirements (format, submission process, etc.) will be discussed with the Contractor during the contract kick-off meeting.

The Contractor will submit a preliminary Contractor Document Submission Schedule (CDSS) within 30 calendar days of contract award. The Eskom Project documentation management team and the Contractor will agree and finalise the CDSS and the information will be included in the project Master Document Register.

The progress and status of the documentation submissions will be managed and reported from the Master Document Register. The reports will be communicated between the Contractor and the Project team, once a month as minimum, and as and when the need arises in between. The Contractor document submission progress reports will be issued to the relevant Project Manager for inclusion in the contract progress reports.

The Contractor will be required to submit transmittal registers, once a month as a minimum, and as and when the need arises in between to track and verify documentation submissions to the Project Documentation Centre.

3.2.5.5 Documentation Storage

With regard to Project Documentation, the Contractor will utilise the Eskom documentation management system, Hyperwave and SmartPlant Foundation for Owner Operators (SPO) as categorised. The Contractor will utilise the SPO document taxonomy for the Project. The taxonomy will be created for Contractor documentation and issued to the contractor within 30 calendar days of contract award. The Contractor will be given access to this taxonomy on SPO.

The Contractor Document Submission Schedule will specify which documentation will be stored in SPO. The Contractor Document Submission Schedule will be finalized within 60 calendar days after contract award. Hard copy documentation shall be stored in the Project Documentation Centre.

With regard to the Project Technical Documentation, all technical documentation shall be managed in the Eskom engineering document and configuration management system, SPO, as per the Engineering Specification or systems as otherwise specified. Eskom Engineering utilises SPO. Refer to procedure 240-53114186 for the definition of technical documentation. The Contractor will utilise the Eskom instance of SPO Foundation. The taxonomy will be issued to the contractor within 30 calendar days of contract award. The Contractor Document Submission Schedule will specify which documentation will be stored in SPO Foundation. The Contractor Document Submission Schedule will be finalized within 60 calendar days after contract award.

Hard copy documentation shall be stored in the Project Documentation Centre according to the engineering filing plan.

3.2.5.6 Naming of files

The Contractor will comply with the Eskom standard for naming documentation files for those files that will be handed over. The standard is as follows:

- For documents that have approval date and signature
  (YYYYMMDD_DocType_DocumentTitle_Unique Identifier_Revision.FileExtention)

- For documents that do not necessarily require the 'Approved Date' and 'Revision & Versioning', use the date of update
  (YYYYMMD_DocTYPE_Document Title_Unique Identifier_Revision.FileExtention)

3.2.6 Project Management Plan Requirements

The Contractor will submit the Contractors Project Management Plan for the Project to Eskom for approval within 30 calendar days after contract award. Eskom will comment on or approve the PMP within 30 calendar days after receipt.

The Contractor will revise the Contractors PMP for final Eskom approval within 2 weeks after receiving Eskom's comments. The Contactor will manage the project in accordance with the approved PMP.

Eskom will submit the template of the Contractors PMP to the Contractor prior to contract award. The PMP addresses the following areas:

- Project Management, including Project Change Management and project organisation
- Project Controls, covering
    - Cost Management
    - Estimating
    - Quantity Surveying
    - Contract Administration
    - Project Integration Management
    - Risk Management
- Stakeholder management and project communications
- Supply chain management, including procurement, contract management and logistics
- Project Reporting
- Project Information Management, including Project Document Management and Knowledge Management
- Health & Safety
- Environmental Management
- Quality Management
- Site Management
- Engineering & Design
- Resources
- Project Codes and breakdown structures
- Progress measurement
- Contractor Document Submission Schedule

3.2.7 Monthly Project Management Reports and Data Requirements

The Contractor will submit a monthly progress report and associated data, relevant to the Contract Scope of Work. The report and data must be submitted by the 10th of each month. Eskom will comment on the monthly report within 10 calendar days from receipt. The report will be submitted in PDF format, signed by the Contractor Project Manager. Each monthly report shall also include a PowerPoint presentation that summarises the project status.

The report will consist of the following sections and contains the summary information from the detail reports:

- Executive summary
- Project Description
- Cost Management (e.g. cost flow, ETC, cost variations)
- Total Project Cost

- Project Changes, including site instructions
- Planning & Scheduling Management (e.g. one and three month look-ahead, actual & physical progress)
- Contract Management (e.g. variations/claims/compensation events listed, justified, rejected &/or processed)
- Finance (e.g. payment status report)
- Construction Management (e.g. Contractors Daily Diary, main issues)
- Safety, Health and Environment
- Quality Management (Quality Control and Quality Assurance activities, including the Inspection and Test Plan)
- Human Resources and Industrial Relations
- Supplier Development and Localisation (SD&L) – local development
- Risk Management
- Stakeholder and Community Management
- Knowledge Management
- Colour photographs in electronic format showing project progress. Photos will be individually marked with the date, description and direction of view.
- Resources (e.g. detail of actual and planned resources)
- Documentation Management (e.g. progress against CDSS in terms of submitted, received, rejected)
- Contractor Permitting Summary

The Project Management Report and Data format is described in the following sections.

3.2.7.1 Project Management Dashboard Reporting & Data Requirements

The project reporting requirements are the following:

- The Contractor will complete the Eskom Dashboard excel template, relevant to the Contractors Scope of work, for inclusion in the Eskom Project Reporting System
- The report will be submitted in PDF and native format
- Eskom will submit the template of the Portfolio Management Dashboard to the Contractor within 30 calendar days after contract award.
- Eskom may from time to time revise the format of the Dashboard
- The Dashboard report will be submitted monthly
- The Dashboard contains the following sections:
    - Project Description
    - Project Highs, Lows & Critical Concerns
    - Project Manager, Engineering Manager and / or Site Manager Statements, i.e. narrative / description of overall view and summary of project performance / how well the project is progressing (this will assist in contextualising all the numbers and figures captured in the report).
    - Safety, Health and Environmental statistics
    - Schedule progress and Schedule Performance Index for Engineering, Procurement, Commissioning, Construction and the overall project as agreed in the contract terms and conditions (% planned, % earned and % spent)
    - Productivity and Cost Performance index for Engineering, Commissioning, Construction, Procurement and the overall project
    - Quality – main issues and concerns
    - Key Milestones

- Cost Management reporting for the month, year to date and year end:
  - Budget
  - Projection
  - Actual
  - Variance
  - Performance
- Total Project Cost: Provide an overview of the total budgets and forecasted Estimate at Complete costs by major category; i.e. Owners Development Cost, Other Costs, Construction Contracts, Contingency and Interest during Construction:
  - Current approved budget (Eskom ERA)
  - Budget at completion
  - Committed costs
  - Estimate at completion
- Risk Matrix and Level 1 Risk Table
- Variation Orders/Compensation Events/Claims
  - Approved Variations
  - Approved Claims
  - Pending/Potential Variation Orders, Claims or CE's
  - Remaining ERA approved contingency for the contract scope
- Main Integration Points for action by Eskom

The following diagram illustrates the current Dashboard template:

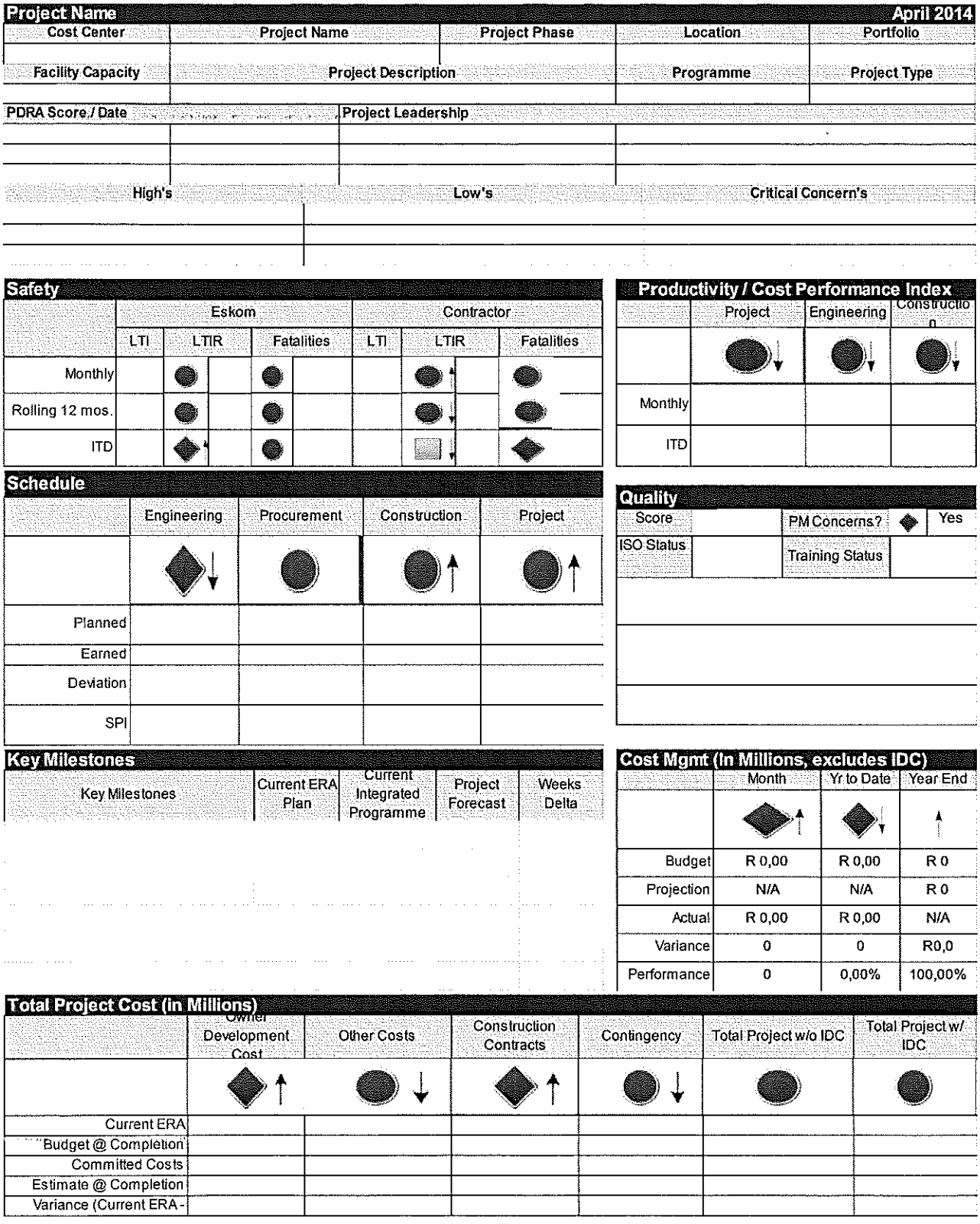


Figure 2 Project Dashboard Template Example

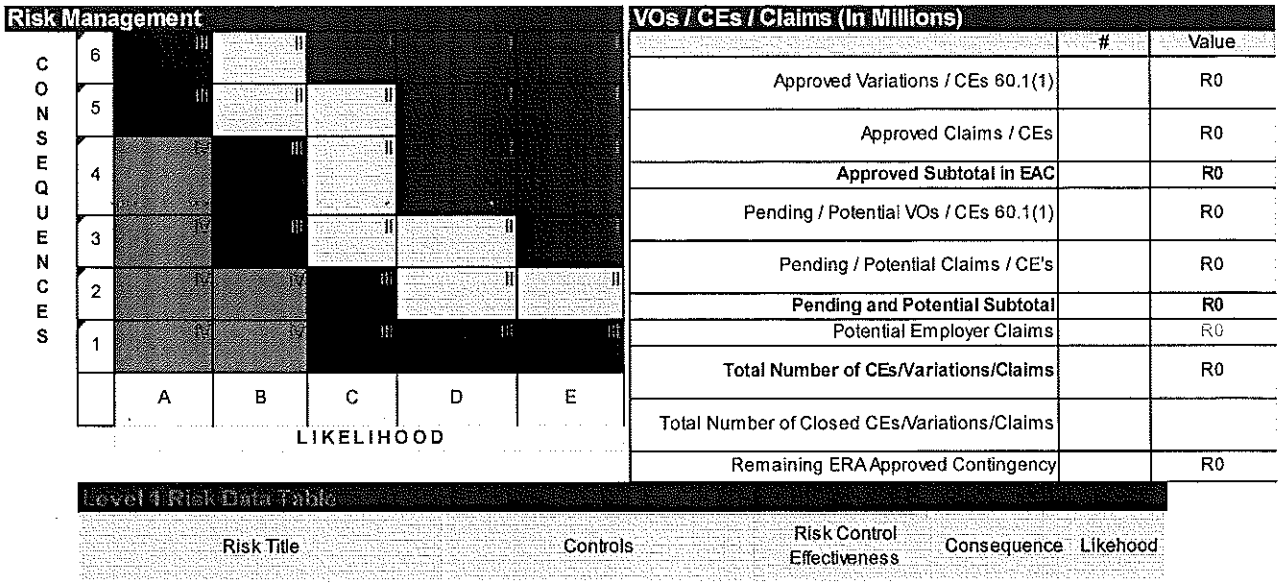


Figure 2 Project Dashboard Template Example (cont.)

3.2.7.2 Planning & Scheduling Management Reporting & Data Requirements

The Planning & Scheduling requirements are the following:

- The schedule will be managed in Primavera P6 15.2 or latest version.
- The schedule must be based on the agreed WBS and the activities must be coded according to the agreed IWBS.
- The activities shall be deliverable based.
- The method of scheduling to be used is the CPM (Critical Path Method) and shall be maintained throughout the monitoring and controlling and close out of the contract.
- The Contractors schedule shall be a resource loaded schedule (to be submitted at tender phase for acceptance).
- The progress measurements method will be agreed with the Contractor.
- Once the schedule has been accepted by the Project Manager (i.e cost loaded according to the pricing structure), the schedule shall be baselined.
- The accepted schedule sequence will be closely monitored and out of sequence works shall be kept to the minimum, reflect the constructability, and shall timeously submitted for approval by the Eskom Project Manager.
- The Contractor shall submit the schedule technical checklist for ensuring that the schedule meets best practice scheduling (14 point health check) criteria and supports the Critical Path Method (CPM).
- The schedule must contain sufficient detail to be able to apply the Earned Value Methodology and to supply Eskom with the relevant data as required by this specification.
- The Contractor will provide Eskom with a copy of the schedule (in Primavera P6 electronic format), with sufficient detail to the working level activities, for inclusion in the Eskom project master schedule.
- The Contractor schedule will be coded with integration codes, supplied by Eskom that will enable the integration with the master schedule. The Contractor will maintain the integration codes in the Contractor schedule throughout the contract.

- The Contractor must submit the list of Project Milestones to the Eskom Project Manager for approval 30 calendar days after contact award with the detailed construction schedule.
- The prefix to be used for all calendars, resource, activity and cost codes will be specified by Eskom within 30 calendar days of contract award. The prefix will be used in the programme to assist with the import of schedules into the Eskom centralised environment. The following is an example of the codes:
    - GC_ING_CMI_xxxxx translates to Group Capital_Project_Contractor_Code
- The Contractor will use the agreed calendars and hours per time period. This will be agreed within 30 calendar days of contact award. The schedule calendar shall be according to the defined working time as per the project Works Information.
- Interim milestones or interface dates between milestones will be clearly identified and documented.
- The schedule shall make provision for all allowances as per the Works Information. .
- The schedule will clearly show the interrelationship of all activities and shall include logic-linked annotated bar charts (Gantt charts). In relation to each activity the following minimum information shall be presented:
    - Identification number
    - Description (descriptive enough to identify plant and area per activity)
    - Duration in working days which should correspond to the project overall durations as appropriate
    - Early start and early finish dates
    - Calendar
    - Bar indication early start date, early finish date and duration
    - Total float
    - Periods of inactivity
- The Contractors progress schedule shall coincide with the cost assessment cycle and will be submitted as a minimum on a monthly basis or as per contractual conditions. The Planning & Scheduling monthly progress report will contain the following:
    - Planned Dates vs Current Dates for main, agreed activities, percentage complete, physical percentage complete and remaining duration.
    - Variances, explanations for variances and proposed corrective actions, time impact analysis of each variance (change or delay)
    - 30 day and 90-day Look Ahead schedule report for main, agreed activities, longest path activities, full schedule of outstanding work, milestone status report, resource histogram, report on calendars used.
    - Earned Value Management report
    - Progress shall be submitted for Engineering, Procurement, Commissioning, Construction and and shall be included in the Contractor Document Submission Schedule.
    - The reports will be in PDF and native format
    - The XER program file of the schedule shall be submitted via a clearly identified medium e.g permanent format that cannot be over written or modified or changed.
    - The baseline in PDF format.
    - Narrative report of all changes and movement within the schedule.
    - Printout presenting calendar information in PDF format
    - Schedule indicating which Bill of Quantities items corresponds with which activity. Each relevant activity shall have Bill of Quantity items assigned to it in the schedule, if applicable.
    - Contractor Document Submittal Schedule (please refer to Documentation Management for more information).

- Commissioning activities shall be included in the accepted baseline schedule.
- The following will be submitted on a weekly basis:
  - 2 week look-ahead reporting indicating the current week progress and the next 2 week planned work
- The Contractor will attend the following progress meetings
  - The Contractor will be required to attend regular site meeting with the Project Manager and Supervisor where the progress of construction will be reviewed. These meetings are normally held monthly.
  - The Contractor will attend weekly progress meetings. The Contractor will provide a two-week look-ahead report as well as the progress achieved over the preceding week that is submitted 1 work day before the meeting.

3.2.7.3 Cost Management Reporting & Data Requirements

The Cost Management requirements are the following:

- The Deliverables per IWBS must be priced and submitted to Eskom within 30 calendar days after contract award
- The contract value shall be time phased according the approved baseline schedule, to create the approved Performance Measurement Baseline (PMB), The PMB shall be maintained until contract closeout.
- The reports will be in PDF and native format
- Progress measurement must be based on the Deliverables and Earned Value Management (EVM) techniques must be applied;
  - For Tangible measures the method will be agreed with Eskom
  - For In-tangible measures the Level of Effort or Apportioned Effort may be applied
- All standard EVM variances indicators and indices will be reported upon, including;
  - Cost Performance Index (CPI) including the variance explanations
  - Schedule Performance Index (SPI) including the variance explanations
  - Planned Values vs Earned Values including the variance explanations (Schedule Variance)
  - Monthly Actual vs Earned Values including the variance explanations (Cost Variance)
  - Year to Date Actuals vs Budgeted Project Cost including the variance explanations
  - Project Cost at Completion (EAC) vs Planned Budget including the variance explanations
  - Project Cost Estimate to Completion (ETC), monthly, vs Planned Budget including variance explanations
- Analysis techniques will be applied to:
  - Explain deviations from Planned Budget and show performance requirements
    - To-complete-performance (T-CPI) using Cost (CPI) and Schedule (SPI) performance
  - Propose corrective actions
- For payments using the Eskom SAP system:
  - Actual Costs as processed within SAP must be used for reporting purposes – this will be linked to the IWBS
  - Any incorrect entries into SAP must be reported for corrections that will be done by Eskom Finance
- Assumptions for changes to Forecasting data to be documented and supplied with the Cost Flow Forecast

- Forecasted rate of invoicing to be verified with cost loaded P6 Schedule in relation to the Cost Flow Forecast
- The following reports must be submitted on a monthly basis:
  - Detail Cost Report as per format provided by Eskom
  - Progress and Performance reports (Physical % complete, Schedule Variance, Cost Variance, Schedule Performance, Cost Performance) – including Variance explanations
  - Project Cost at Completion (EAC) and Project Cost Estimate to Completion (ETC) per IWBS (ETC to show monthly figures
  - Corrective action recommendations

3.2.7.4 Contract Management Reporting & Data Requirements

The requirements are detailed in the formal contractual documentation. Refer to the relevant NEC and relevant FIDIC contract terms and conditions for specific details. The following provides a guideline for the reporting requirements for Contract Management purposes for the duration of the Contract.

- The reports will be in PDF and native format
- List of Compensation Events (linked to IWBS per Currency), and the status of the events, for NEC contracts
- List of Variations (linked to IWBS per Currency), and the status of the variations for FIDIC contracts
- List of Claims submitted (linked to IWBS per Currency), with status and mitigation measures
- All of the above must be justified and quantified (Cost and Schedule impact) and submitted in the agreed formats
- All related contract documentation must be packaged and handed over for management within Hyperwave or SPO as per the agreed Contractor Document Submission Schedule
- All Payment Certificates will be processed according to the IWBS Deliverables per Currency
- All SD&L reports to be completed and submitted in the format provided at tender stage
- Contractually agreed information will be submitted to the Contract Management for review, re-measurements and approval
- The Contractor will submit all site generated documents, e.g. signed daily diaries, site instruction, to the Project Manager, and copy the Project Documentation Centre.

3.2.7.5 Safety, Health and Environment Reporting & Data Requirements

The SHE requirements are the following:

- The reports will be in PDF and native format
- The list of SHE Key Performance Indicators (KPI's) and their respective formulae's to be reported on will be made available to the Contractor prior to contract award
- All incidents and Lost Time Injuries will be reported monthly. Fatalities will be reported within 24 hours.
- The incident report shall include the root cause of the incident, with its corrective actions and implementation dates
- Environment reports will comply with the Environmental Authorisation for the specific site
- All SHE reports will comply with International Funding Arrangements requirements

3.2.7.6 Quality Management Reporting & Data Requirements

The Quality requirements are the following:

- List of Quality Control Plans and progress status
- List of NCR's raised and resolutions
- List of Defects and resolution status
- Inspection plans and status of plan
- The reports will be in PDF and native format

3.2.7.7 Human Resource and Industrial Relations Reporting & Data Requirements

The HR and IR requirements are the following:

- The reports will be in PDF and native format
- List of HR issues which may impact the project, and its mitigation
- Report on Skills Development and Skills Transfer as per Skills Development Plan, including training of Eskom and non-Eskom personnel
- List of IR issues which may impact the project, and its mitigations
- Strike notification and status of work force in terms of stability, unrest, general labour issues

3.2.7.8 Risk Management Reporting & Data Requirements

The Risk Management requirements are the following:

- The reports will be in PDF and native format
- Risk records in the Eskom GCD Project Risk Management format (likelihood, consequence and risk rating scales)
- Cost of treatment actions
- Risk movement over time
- Pre and post treatment risk positions
- Pre and post treatment schedule and cost risk impacts
- Risk profiles detailing:
    - Risk matrix showing top 10 risks
    - Risk matrix showing level I and level II risks
    - All risks and treatment actions in table report format
    - Breakdown of risks according to risk status
- Risk records per package and at the project level
- Risk description.
- For Cost and Schedule related risks, WBS (Activity) Code impacted by the risk.
- P50 and P80 estimates from a Quantitative Risk Analysis exercise, based on the Monte Carlo Statistical Sampling technique, for:
    - Uncertainty only (i.e. no risk impacts)
    - Pre risk-treatment
    - Post risk-treatment

3.2.7.9 Stakeholder and Community Management Reporting & Data Requirements

The Stakeholder and Community Management requirements are the following:

- The reports will be in PDF and native format

- Report on stakeholder engagements, issues and mitigation actions
- Report on local community engagement, issues and mitigation actions
- Supplier Development and Localisation (SD & L) and Corporate Social Investment (CSI) initiatives related to the project (spend, job creation numbers by applicable category)

3.2.7.10 Knowledge Management Reporting & Data Requirements

The Knowledge Management requirements are the following:

- The reports will be in PDF and native format
- List of Lessons Learned during the reporting period
- List of Project Policies, Procedures, Standards and Work Instructions that had been revised to encapsulate Lessons Learnt

3.2.7.11 Handover Data Requirements

All technical information (design, warranty, operational information) must be handed over in native format and PDF format. The detail handover requirements will be included in the enquiry and discussed at the contract kick-off meeting. The Engineering Minimum Functional Specification details the technical documentation requirements. The project will develop a detailed Handover Check List that will be used during Handover.

The Contractor will compile a Handover Data Book of all plant and materials. The Handover Data Book will be compiled per project package. If the contract groups several distinctly different units or pieces of Plant and Materials under the same package, one Handover Data Book for each package unit or piece of Plant and Materials shall be prepared by the Contractor. One Handover Data Book for each lot of Plant and Materials (bulk materials e.g. piping, instruments) shall be produced. The Handover Data Book will be completed during procurement, fabrication, construction and production in accordance with the agreed project instructions and inspection criteria. The Inspector appointed to the Contract and the AIA inspector shall check and stamp documents as they are made available after each inspection or testing.

The Handover Data Book will submitted in electronic format at the start of Cold Commissioning. The Data Book will be reviewed and comments issued. The Data Book will be submitted electronically after Hot Commissioning for final review and update. The Handover Data Book will be provided as one final hard copy. The final hard copy will be delivered once all the information has been verified and accepted. The hard copy will contain all relevant signatures. An electronic copy on DVD will be issued with the hard copy.

The Handover Data Book Table of Contents will contain as a minimum and as applicable, the following items:

a) Quality Assurance
   - Quality Control Plans and/or Inspection And Test Plans (Completed)
   - Concession Requests
   - Non-Conformance/Defects Reports and Corrective Action Reports
   - Inspection Reports
   - Weld Procedures And Weld Maps
   - Weld Procedures Specification
   - Weld Procedure Qualification Record
   - Welders' Qualifications

- Test Procedures
- Test Reports
- Punch/defects lists
- Check lists
- Risk Assessments
- Vendor document requirement list

b) Certificates
- Contractor Certificate Of Conformance
- Code Certificates
- Material Certificates and material maps
- Calibration Certificates
- Pressure Test Certificates
- Heat Treatment Certificates
- All Other Test Certificates
- Client Acceptance Certificate

c) Drawings and calculations
- Certified, signed and accepted drawings ("as built")
- Design calculations or review acceptance report
- Equipment (mechanical, electrical, instrumentation) specifications and datasheets'
- Pipe & Instrumentation Diagrams

d) Commissioning
- Cold and Hot commissioning procedures
- Start-up and Shut-down procedures and check lists
- As-built drawings
- Data Books
- Operating and Maintenance Manuals
- Recommended spares list.

e) Operating Procedure
- Detailed Operating Procedures

f) Maintenance
- Maintenance requirements and Procedures
- Critical Spares List

3.3 Eskom Standard Applications

The following list of Eskom standard applications that is used on capital expansion projects. All information supplied to Eskom must be compatible with the relevant application.

The following table lists the standard applications used in Eskom:

Application	Main Function
SharePoint	Collaboration, Project Change Management, Project Dashboard, Project Diaries, Project Reporting
Hyperwave	Document and Records Management, Knowledge Management
SmartPlant Enterprise for Owners Operators (SmartPlant Foundation, SmartPlant P&ID, SmartPlant Electrical, SmartPlant Instrumentation, SmartPlant 3D)	Technical documents, engineering & design
PRISM G2	Cost Management
Oracle Primavera Contract Management	Contract Management
Primavera P6	Planning & Scheduling
CURA	Risk Management
Primavera Risk Analysis	Quantitative Risk Analysis
WinQS	Quantity Surveying
SAP PPM	Portfolio and Programme Management
SAP FICA	Financial Integration to Cost Management
PRS	Project Reporting

4. Acceptance

This document has been seen and accepted by:

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Project Controls	Project Controls Study Committee
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Luke Walker	Monitoring & Reporting
Hugo Huysamer	Chief Advisor Project Management
Egan Naidoo	SME – Quantitative Risk Analysis
Keith Rodseth	SME – Quantitative Risk Analysis

5. Revisions

Date	Rev.	Compiler	Remarks
2014-07-18	0	FC Malan	Development
2014-12-02	1	FC Malan	Updated and issued for signature
May 2017	2	R Rajkumar	Adopted into EVM methodology i.e. Sourcing and Integrated into Project Controls PCM procedure.

6. Development Team

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