

# Transmission Engineer, Procure and Construct (EPC) Supplier Engagement Forum PTM&C Engineering

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## **Scope:**

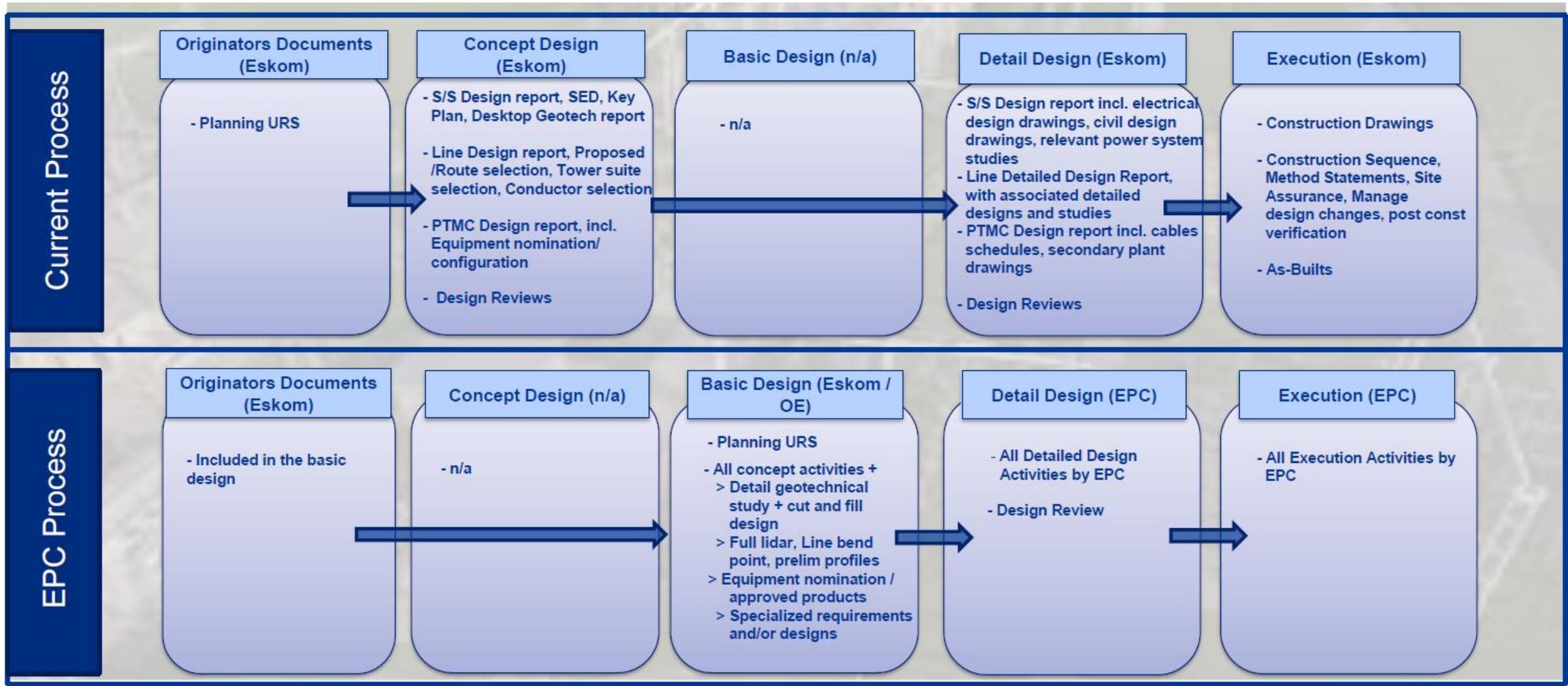
- Supply Schemes, Equipment, Cabling and the Engineering (Application), Delivery, Installation, Cabling, Application of configurations & settings and Commissioning
- Provision of as-built / tested documentation, drawings, in Eskom standard format and to be accepted by Eskom
- Secondary Plant Equipment - Protection, Telecontrol, Substation Automation, Physical Security, Metering and DC

Note: IP addresses, Protection Settings, Telecontrol Databases are to be requested from and provided by Eskom

## **Eskom Product Standardisation:**

- 2 Stage procurement process
- Standardisation across 2 dimensions
  - Diversity – limited number of suppliers
  - Time - Supplier relationships of up to 10 years
- Facilitates sustainability of installed base – spares, training, life cycle planning, change management

# Process: Current In-house Eskom versus EPC





## Tx DESIGN BASE

### Requirements

- **Applicable Standards and Philosophies**
- **Design Review Templates**
- **Station Electric**
- **Specify equipment / material**
- **Equipment / material specifications if not specified**
- **Eskom's current & past equipment Suppliers**
- **Master drawings**
- **Existing databases / drawings where relevant to facilitate interfacing to existing plant**

## Requirements

### Specified Protection, Telecontrol, Substation Automation, Security, Metering & DC equipment

- Based on Tested (FAT) and Accepted products where ever possible and available from nominated suppliers who currently have or previously had long term supply contracts with Eskom.
- Based on accepted product ranges but still to undergo FAT, timelines must allow for this. Available from nominated suppliers.
- Special schemes may be stipulated with a functional specification, alignment / compatibility with other Eskom standard products is essential.

### Guarantees

Supplier guarantees for schemes and equipment is to be transferred to and in favour of Eskom as follows:

- 2 years for goods and services unless otherwise specified below
- 10 years for Siprotec electronic devices and for a-eberle voltage regulator devices
- 5 years ethernet networking electronic devices
- 1 year for physical security systems equipment
- 2 years for power electronics equipment incl inter-alia chargers, converters, UPSs and inverters
- 2 years for batteries, with an additional pro-rata warranty for an additional 3 years

## Stage 1: Technical Qualitative Requirements for the Supply of Equipment

This stage requires a minimum of 80% compliance.

Only submissions that pass the scoring threshold of a minimum of 80% will proceed to the next stage.



## Stage 2: Technical Qualitative Requirements for Installation, Testing & Commissioning

This stage requires a minimum of 80% compliance.

Only submissions that pass the scoring threshold of a minimum of 80% will proceed to the next stage.



## Stage 3: Deemed offer Risks

This stage is a report written by the evaluation team to determine detailing the risks found.

The risks identified should at least be acceptable.

# Stage 1: Evaluation of Technical Qualitative Requirements

- The A&B Technical Schedule together with the deviation schedule shall be completed, signed and submitted as a tender returnable and will be evaluated to determine exact use of specified products

Criteria	Score
Fully compliant	1
Non-compliant (major deviation)	0

- All scores for the A&B Technical Schedules will be scored against the table above with a minimum of 80% to proceed to Stage 2.
- NB: Where component obsolescence or other reasons predicate changes to the existing design, *Suppliers* shall propose alternatives, while minimising impact to the existing design, for acceptance by *Purchaser* at the *Purchaser's* discretion prior to delivery of the equipment.
- If a newer IED version is supplied for a scheme, then a configuration file with identical functionality must be supplied by the tenderer.

## Stage 2: Evaluation of Technical Qualitative Requirements for Engineering, Installation, Testing & Commissioning Capability

- The assessment in stage 2 is based on the returnables requested for each of the categories defined below.
- This stage will be adjudicated as a weighted score out of 100% and will comprise of scoring in the categories as defined the table below. Each category has a minimum threshold score of 80% to be deemed compliant.

Category	Item	Threshold Score	Sub-Weight	Weighting
1.	Engineering	>80%		20%
2.	Procedure for Commissioning	>80%		20%
3.	Schedule for Commissioning	>80%		20%
4.	Tools, Test Equipment, Software	>80%	30%	40%
5.	Training Courses	>80%	10%	
6.	Related Experience and references	>80%	60%	
	Score			100%



## Stage 2: Brief Explanation of the subcategories

### 1. Engineering

- Tenderers are required to complete the schedule and supply a method statement indicating the approach and deliverables for the engineering of the proposed scope.

### 2. Procedure for Commissioning

- Tenders are required to propose and submit a signed procedure for commissioning in accordance with the Scope of Work, whilst considering and ensuring the continuity of existing operations

### 3. Schedule for Commissioning

- Tenders are required to propose and submit a signed schedule for commissioning (task sequencing and duration) incorporating the procedure(s) developed in Engineering in compliance with the Scope of Work.

### 4. Tools, Test Equipment, Software

- Tenders are required to submit a signed list of Tools, Test Equipment and software which they will utilise for the specific project.

### 5. Training Courses

- Tenderers are required to submit a signed the annexure indicating the training and courses related to this tendered project that each employee (to be involved with this tendered construction project) has undergone

### 6. Related Experience

- Tenderers are required to submit a signed company organogram together with CV's of each key person that will work on this scope.

- Each item in the category will be assigned a score by the Eskom evaluation team using the table below. The score for each item will be multiplied by its weight to obtain the total score per item.

Score	Description
10	Deemed to fully meet requirements
7	Deemed to mostly meet requirements
2	Deemed as substantially not meeting requirements
0	Nonresponsive
<b>Note: Scores will be allocated in the range 0 - 10 with the above as a guideline</b>	

- Eskom's evaluation team shall compile a report summarizing risks associated with any aspect of the offer:
  1. noted during the Technical Qualitative Requirements for the Supply of Equipment,
  2. noted during the Technical Qualitative Requirements for Engineering, Installation, Testing & Commissioning.
  3. noted on the deviation schedule
  4. based on any pricing anomalies, noted during the subsequent financial evaluation that cannot be acceptably clarified.
  
- This report shall be used to determine and motivate whether the risk is deemed high / acceptable / low and will serve as input to the recommendation as to whether the offer should be accepted. Note, the TET shall only have access to financial information post completion of the technical evaluation report. Any changes as a result of 3) above will be included in an update to the initial report.

Stage 1 has 2 sub-categories: (For a complete EPC turnkey solution, subcategory 1 is not required.)  
1) For a Turnkey solution: Technical Qualitative Requirements for the supply of cables as per cable block diagrams included in the scope  
2) Technical Qualitative Requirements for the type of cable supplied

This stage requires a minimum of 80% compliance.

Only submissions that pass the scoring threshold of a minimum of 80% will proceed to the next stage.



Stage 2: Technical Qualitative Requirements for Cable Installation, Termination and other cable associated activities

This stage requires a minimum of 80% compliance.

Only submissions that pass the scoring threshold of a minimum of 80% will proceed to the next stage.



Stage 3: Deemed offer Risks

This stage is a report written by the evaluation team to determine detailing the risks found,.

The risks identified should at least be acceptable.

# Stage 1 Evaluation of Technical Qualitative Requirements for the Supply of Cables

- This stage contains the technical evaluation strategy and criteria for the supply cables as stipulated in the corresponding scope of work document provided by the project.
- The A&B Technical Schedule together with the deviation schedule shall be completed, signed and submitted as a tender returnable.
- All scores for the Technical Schedules A&B will be scored against the table below, with a minimum of 80% to proceed to Stage 2.

Criteria	Score
Fully compliant	1
Non-compliant (major deviation)	0



## Stage 2: Evaluation of Technical Qualitative Requirements for Cable Installation, Termination and other cable associated activities



- The assessment in stage 2 is based on the returnables requested for each of the categories defined below.
- This stage will be adjudicated as a weighted score out of 100% and will comprise of scoring in the categories as defined the table below. Each category has a minimum threshold score of 80%.

Category	Item	Threshold Score	Weighting
1.	Relevant company experience (Projects completed in past 10 years)	>80%	20%
2.	Qualifications and experience of key personnel	>80%	20%
3.	Procedure for Cable Installation	>80%	15 %
4.	Procedure for Cable Termination	>80%	10%
5.	Procedure for loading and unloading of cable drums	>80%	5%
6.	Procedure for cable handling and storing	>80%	5%
7.	Tools and equipment	>80%	10%
8.	Procedure for removing of old cables	>80%	15%
	Total Score		100%

# Stage 2: Brief Explanation of subcategories for Cabling Requirements

## 1. Relevant Experience and capability

- Tenders are required to submit three recent (within the last 3 years) **cabling** projects that they have conducted . The projects must be from different substations

## 2. Qualifications and Experience of Key personnel

- Tenders are required to submit the annexure indicating the training and courses related to this tendered project that each employee (to be involved with this tendered project) has undergone.

## 3. Procedure for Cable Installation

- Tenders are required to propose a procedure for cable installation, referencing the subcategories, in accordance with the Scope of Work and SANS 10198.

## 4. Procedure for Cable Termination

- Tenders are required to propose a procedure for cable termination, referencing the subcategories, in accordance with the Scope of Work and SANS 10198

## 5. Procedure for Loading and unloading cable drums

- Tenders are required to propose a procedure for loading and unloading cable drums, referencing the subcategories, in accordance with the Scope of Work, and SANS 10198

## 6. Procedure for cable handling and storing

- Tenders are required to propose a procedure for cable handling and storing, referencing the subcategories, in accordance with the Scope of Work, and SANS 10198

## 7. Tools and Equipment

- Tenders are required to submit a signed list of Tools, Test Equipment and software which they will utilise for the specific project.

## 8. Procedure for removing old cables

- Tenders are required to propose a procedure for removing old cables, referencing the subcategories, in accordance with the Scope of Work, and SANS 10198

- Each item in the category will be assigned a score by the Eskom evaluation team using the table below. The score for each item will be multiplied by its weight to obtain the total score per item.

Score	Description
10	Deemed to fully meet requirements
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Thank you