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|  | Template | Project Engineering |
|---|-----------------|----------------------------|

Title: TECHNICAL EVALUATION CRITERIA FOR THE PTM&C EQUIPMENT & COMMISSIONING ASSOCIATED: PAULPUTS & AGGENEIS SUBSTATION

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| Date: 04/10/2023 | Date: 04/10/2023 | Date: 04/10/2023 |

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1. Introduction

This document provides an overview of Eskom's technical evaluation strategy and criteria to be used when evaluating the tender submissions for:

- a. Supply of Phase VI protection schemes for Breaker and half Transformers, Feeders, Buszone, DFR's Tele protection including Fibre, Substation Automation equipment, Junction boxes, AC Boards, DC Boards Metering, as listed in Table 2 and detailed 240-170001091-UID number PAU21 Agg21P12P04 & High Level Scope of Work – PTM&C Equipment for the Establishment of 400/132kV Paulputs Substation (Phase1)
- b. Commissioning of Phase VI protection schemes for Breaker and half Transformers, Feeders, Buszone, DFR's Tele protection including Fibre, Substation Automation equipment, Junction boxes, AC Boards, DC Boards, Metering, as listed in Table 2 and detailed 240-170001091-UID number PAU21P04 & Agg21P12 High Level Scope of Work – PTM&C Equipment for the Establishment of 400/132kV Paulputs Substation (Phase1)

2. Supporting clause.

2.1 Scope

This document contains the technical evaluation strategy and criteria relating to the:

- a. Supply of Phase V and Phase VI protection schemes Breaker and half Transformers, Feeders, Buszone, DFR's Tele protection including Fibre, Substation Automation equipment, Junction boxes, AC Boards, DC Boards, Metering, as listed in Table 2 and detailed 240-170001091-UID number PAU21P04 & Agg21P12 High Level Scope of Work – PTM&C Equipment for the Establishment of 400/132kV Paulputs Substation (Phase1)
- b. Commissioning of Phase V and Phase VI protection schemes Breaker and half Transformers, Feeders, Buszone, DFR's Tele protection including Fibre, Substation Automation equipment, Junction boxes, AC Boards, DC Boards, Metering, as listed in Table 2 and detailed 240-170001091-UID number PAU21P04 Agg21P12 & High-Level Scope of Work – PTM&C Equipment for the Establishment of 400/132kV Paulputs Substation (Phase1)
- c. and details specific tender returnables required to facilitate this evaluation.

2.1.1 Purpose

The purpose of this document is to define the technical evaluation strategy and criteria and detail specific tender returnables required to facilitate this evaluation.

2.1.2 Applicability

This document shall apply to Eskom Transmission Division.

2.2 Normative/informative references

Parties using this document shall apply:

2.2.1 Normative

Note: Certain documents listed below may state applicability to Eskom Distribution, however those documents are also applicable to Eskom Transmission.

- [1] Drawing No: 0.52/30551 – Master Drawings for 6FZDB-2110 M1
- [2] Drawing No: 0.52/30552 – Master Drawings for 6FZDB-2110 M2
- [3] Drawing No: 0.52/30555 – Master Drawings for 6FZD-2110 M1
- [4] Drawing No: 0.52/30556 – Master Drawings for 6FZD-2110 M2

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- [5]
- [6] Drawing No: 0.52/30440– Master Drawings for 6TAB-2300 M1
- [7] Drawing No: 0.52/30492– Master Drawing for 6TAB-2300 M2
- [8] Drawing No: 0.52/30553 - Master Drawing for 6DIP-2110 M1
- [9] Drawing No: 0.52/30554 - Master Drawing for 6DIP-2110 M2.
- [10] Drawing No: 0.52/30637- Master Drawings for 6TCP-2101
- [11] Drawing No: 0.52/30586- Master Drawings for 6TC-2101-1
- [12] Drawing No: 0.52/30796 – Master Drawings for 6JB-#100
- [13] Drawing No: 0.52/30794 or 0.52/30797– Master Drawings for 6JB-#200
- [14] Drawing No: 0.52/30571– Master Drawings for 6JB-#300
- [15] Drawing No 0.52/30453 and 0.52/30447 Master Drawings for 6BZB 2910 and 6BZ 2310
- [16] Drawing No: 0.52/30112 – Master Drawings for 6DR-7100
- [17] Drawing No: 0.52/20250 – Master Drawings for 1AC-0103
- [18] Drawing No; 0.52/30578 and 0.52/30579- Master Drawing for 6AGW-2101-M1&M2
- [19] Drawing No: 0.52/30580 and 0.52/30581-Master Drawing for 6AHMI -2100-M1 & M2
- [20] Drawing No: 0.52/30580Master Drawing for 6AFS-2100-2100-M1 & M2
- [21] Drawing No: 0.52/30514, Master Drawing for 6ACE-2100
- [22] Drawing No: 0.52/30793 or 0.52/30796
- [23] 240-170000986 High Level Scope of Work – PTM&C Equipment for Paulputs Substation.
- [24] 240-54615413 - Standard for Commissioning Protection Assets
- [25] Applicable wiring, drawing, commissioning standards 240-60725641: Specification for Standard (19 inch) Equipment Cabinets
- [26] 240-70733995: Optical Distribution Frame / Patch Panel
- [27] 240-132226392: Application Guideline for Transmission Metering Commodities
- [28] 240-170000395 Substation Control and Automation Application Guide for Phase VI Siemens Solution

2.2.2 Informative

- [29] 240-60665215 – Delivery projects commissioning management procedure

2.3 Definitions

2.3.1 General

| Definition | Description |
|---------------------------|--|
| Breaker and a half | The breaker and a half bus arrangement consist of two main busbars, each normally energised. Between each of the main busbars are similar arranged “bays” of three circuit breakers configured such that the two lines or a combination transmission line and transformer position share the centre circuit breaker. |

| Definition | Description |
|--------------------------------------|---|
| Double Busbar | A substation layout consisting of the conventional double busbar configuration with or without bus section / bus couplers etc. A set of isolator links per busbar are used to connect the transformer bay to either busbar. In double bus bar system two identical bus bars are used in such a way that any outgoing or incoming feeder can be taken from any of the bus. |
| Extra High Voltage | Nominal AC voltages above 220kV up to and including 765kV. |
| Intelligent Electronic Device | A microprocessor-based device that encompasses all or some of the following functionalities: protection, control and automation, metering, tele control, substation DC and auxiliary supply systems, quality of supply monitoring, and disturbance and event recording. |

2.3.2 Disclosure classification

Controlled disclosure: controlled disclosure to external parties (either enforced by law, or discretionary).

2.4 Abbreviations

| Abbreviation | Description |
|------------------|---|
| DIP | Diameter Interface Panel |
| DFR | Disturbance Fault Recorder |
| EHV | Extra High Voltage |
| FZB | Breaker and a Half Feeder Impedance |
| JB | Junction Box |
| kV | Kilovolt |
| PTM&C | Protection Telecommunication Measurements & Control |
| TWS | Travelling Wave System |
| TAB | Auto Transformer Breaker and a Half |

2.5 Roles and responsibilities

It is proposed that:

- Eskom shall utilise this document as the basis for the technical evaluation process.
- Tenderers shall note the evaluation criteria and required tender returnables as laid out in this document and submit proposals in compliance to the stipulated requirements.

2.6 Process for monitoring

Not applicable.

2.7 Related/supporting documents

Not applicable.

3. Technical Tender Evaluation Procedure

The evaluation process has three stages, with corresponding minimum scoring thresholds per stage required for a bid to be deemed compliant:

- a) **Stage 1:** Technical Qualitative Requirements for the Supply of Equipment which require a minimum of 80% compliance. Only submissions that pass the scoring threshold of a minimum of 80% will proceed to the next stage.
- b) **Stage 2:** Technical Qualitative Requirements for Installation, Testing & Commissioning which require a minimum of 80% compliance threshold. Only submissions that pass the scoring threshold of a minimum of 80% will proceed to the next stage.
- c) **Stage 3:** Deemed offer Risks which should at least be acceptable.

The technical evaluation process will follow a chronological order:

- 1) Stage 1 evaluates the technical criteria for the Supply of Equipment and will be scored against the thresholds defined. If the Stage 1 threshold is met, then the qualifying bid will proceed to Stage 2. If the bidder fails to achieve the defined threshold, then the submission is deemed to be non-compliant and will not be considered for further evaluation. Based on the evaluation, qualifying offers with any non-compliances which Eskom deems necessary, may be recommended for negotiation as compulsory prior to contract award.
- 2) Stage 2 evaluates the technical criteria for Installation, Testing & Commissioning and will be scored against the thresholds defined. If the Stage 2 thresholds are met, then the qualifying bids will proceed to Stage 3. If the bidder fails to achieve the defined threshold, then the submission is deemed to be non-compliant and will be removed from further evaluation. Based on the evaluation, qualifying offers with any non-compliances which Eskom deems necessary, may be recommended for negotiation as compulsory prior to contract award.
- 3) Stage 3 is a report written by the evaluation team to determine and motivate whether any risks found throughout the evaluation are deemed low / acceptable / high and will serve as input to the recommendation as to whether the offer should be accepted.

The detailed methodologies for scoring in each stage are provided in Sections 4 to 6.

4. Stage 1: Evaluation of Technical Qualitative Requirements for the Supply of Equipment

This section contains the technical evaluation strategy and criteria for the supply as stipulated in the 240-170001091-UID number PAU21P04 Agg21P12 & High Level Scope of Work – PTM&C Equipment for the Establishment of 400/132kV Paulputs Substation (Phase1). The following criteria will be used to assess the tenderer's technical acceptability pursuant to a contract with Eskom with respect to the supply of specific products to meet Eskom's requirements.

Each item will be assigned a score by the Eskom evaluation team, based upon the tendered response, using Table 1 to score those items in Schedule B of the A&B Technical Schedule in Annexure A.

Tender responses claiming compliance to an item (e.g., 'Comply') but which are found to be non-compliant during verification will be assigned the corresponding score by the Eskom evaluation team. Items for which compliance is not claimed (e.g., 'Do Not Comply'), but which are found to be compliant during verification will be scored as 'non-compliant' based on the original response.

All scores for the Technical Schedules A&B will be tallied and shall be calculated based on the maximum possible score (Score from Table 1). This value will be recorded as the equivalent amount out of a score of 100% in Table 2. There is a minimum score threshold of 80% to pass this stage.

Annexure A: A&B Technical Schedule and Annexure J: Deviation Schedule shall be completed, signed and submitted as a tender returnable.

Table 1: Scoring of Items in Technical Schedules A&B

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

Table 2: Technical Qualitative Requirements Evaluation

| No. | Item | Score (1/0) | Comments |
|-----|--|-------------|----------|
| 1. | Full compliance to Drawing No: 0.52/30440 and 0.52/30492, in respect of equipment supplied and wiring. | | |
| 2. | Full compliance to Drawing No: 0.52/30553 and 0.52/30554, in respect of equipment supplied and wiring. | | |
| 3. | Full compliance to Drawing No: 0.52/30551 and 0.52/30552 in respect of equipment supplied and wiring. | | |
| 4. | Full compliance to Drawing No: 0.52/30555 and 0.52/30556 | | |
| 5. | Full compliance to Drawing No: 0.52/30637 or 0.52/30586, in respect of equipment supplied and wiring. | | |
| 6. | Full compliance to Drawing No0.52/30453 and 0.52/30447, in respect of equipment supplied and wiring. | | |
| 7. | Full compliance to Drawing No: 0.52/30114, in respect of equipment supplied and wiring. | | |
| 8. | Full compliance to Drawing No: 0.54/6731, in respect of equipment supplied and wiring. | | |
| 9. | Full compliance to Drawing No: 0.54/6731, in respect of equipment supplied and wiring. | | |
| 10. | Full compliance to Drawing No: 0.52/30268, sheet number 10, in respect of equipment supplied and wiring. | | |
| 11. | Full compliance to Drawing No: 0.52/30555, sheet number 14 in respect of equipment supplied and wiring. | | |
| 12. | Full compliance to Drawing No: 0.52/30268, Sheet 19 & refer to 240-170000986, Annexure B in respect of equipment supplied, wiring and frequency. | | |
| 13. | Full compliance to Drawing No: 0.52/30556, Sheet 14 & refer to 240-170000986, Annexure B in respect of equipment supplied, wiring and frequency. | | |

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| No. | Item | Score (1/0) | Comments |
|---------------|--|-------------|------------------------|
| 14. | Full compliance to Drawing No0.52/30578 and 0.52/30579, in respect of Gateway Panel - Main 1 (6AGW-2101-M1) to be installed. | | |
| 15. | Full compliance to Drawing No: 0.52/30580 and 0.52/30581, in respect Gateway Panel - Main 2 (6AHMI - 2100-M2) to be installed. | | |
| 16. | Full compliance to Drawing No: 0.52/30580, in respect Automation HMI Server Module - Main 1 (6AFS-2100-2100-M1) to be installed. | | |
| 17. | Full compliance to Drawing No: 0.52/30514, in respect Automation Common Equipment Panel (6ACE-2100) to be installed. | | |
| 18. | Full compliance to Drawing No: 0.52/30793 or 0.52/30796, in respect of equipment supplied and wiring. | | |
| 19. | Full compliance to Drawing No: 0.52/30794 or 0.52/30797, in respect of equipment supplied and wiring. | | |
| 20. | Full compliance to Drawing No: 0.52/30571, in respect of the design for BMK/Panel supplied and wiring for breaker PIUs | | |
| 21. | Full compliance to Drawing No: 0.52/30131, in respect of equipment supplied and wiring | | |
| 22. | Full compliance to Drawing No: 0.73/00075 and 0.73/00073 in respect of equipment supplied and wiring. | | |
| 23. | Full compliance to Drawing No: 0.52/20252 or 0.54/7466, in respect of equipment supplied and wiring. | | |
| 24. | Full compliance to Drawing No: 0.54/7106, in respect of equipment supplied and wiring. | | |
| 25. | Full compliance to Drawing No: 0.52/20251, in respect of equipment supplied and wiring. | | |
| Total Score % | | | Threshold = 80% |

Tenderers that do not achieve at least the **threshold** for this stage will not be evaluated further for consideration in terms of this Request for Proposal.

5. Stage 2: Evaluation of Technical Qualitative Requirements for Installation, Testing & Commissioning Capability

This section contains the technical evaluation strategy and criteria for evaluating submissions to perform installation, testing and commissioning of the equipment listed in Table 2 at Eskom substations.

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The following criteria will be used to assess the tenderer's technical capability to enter into a contract with Eskom with respect to installation, testing and commissioning work. The assessment is based on the returnables requested in:

1. Annexure B: Engineering Schedule
2. Annexure C: Procedure for Commissioning
3. Annexure D: Schedule for Commissioning
4. Annexure E: Tool List
5. Annexure F: Test Equipment List
6. Annexure G: Software List
7. Annexure H: Training Courses per technician
8. Annexure I: Organogram, CV's & Project Experience
9. Annexure J: Deviation Schedule

Each item will be assigned a score by the Eskom evaluation team using Table 3. The score for each item will be multiplied by its weight to obtain the total score per item.

Table 3: Scoring for Contractor Commissioning

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

The quality criteria will be adjudicated as a weighted score out of 100% and will comprise of scoring in the categories as defined in Table 4. Each category has a minimum threshold score of 80%.

Table 4: Installation, Testing & Commissioning Capability Criteria

| Category | Item | Threshold Score | Score | Sub-Weight | Weighting |
|----------|-----------------------------------|-----------------|-------|------------|-----------|
| 1. | Procedure for Commissioning | >80% | (%) | | 30% |
| 2. | Schedule for Commissioning | >80% | (%) | | 30% |
| 2.1 | Tools, Test Equipment, Software | >80% | (%) | 30% | 40% |
| 2.2 | Training Courses | >80% | (%) | 10% | |
| 2.3 | Related Experience and references | >80% | (%) | 60% | |
| | Score | | (%) | | 100% |

6. Stage 3: Deemed Offer Risk(s)

Eskom's evaluation team shall compile a report summarising risks associated with any aspect of the offer:

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- a) noted during the Technical Qualitative Requirements for the Supply of Equipment,
- b) noted during the Technical Qualitative Requirements for Installation, Testing & Commissioning.
- c) based on any pricing anomalies, noted during the subsequent financial evaluation that cannot be acceptably clarified.
- d) Noted on the deviation schedule as in Annexure J: Deviation Schedule.

This narrative 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 as shown in Table 5 below. Note, the TET shall only have access to financial information post completion of the technical evaluation report. Any changes as a result of c) above will be included in an update to the initial report.

Table 5: Deemed Offer Risk(s) Evaluation

| Criteria | Score | Comments |
|----------------------|-------------------|----------|
| Deemed Offer Risk(s) | | |
| Threshold | Acceptable | |

7. Authorization

This document has been seen and accepted by:

| Name and surname | Designation |
|---------------------|---|
| Mario Petersen | Planning and Project Support Manager (Acting) |
| Lungiswa Nogela | Planning & Support Chief Technologist |
| Quinton Labuschagne | Substation Automation Integration Manager |

8. Revision History

| Date | Rev | Compiler | Remarks |
|------------|-----|----------|--|
| 2023/07/25 | 1 | N. Gono | Initial Scope |
| 2023/10/04 | 2 | N. Gono | Revised Bay Number and added Remote End. |

9. Acknowledgements

Lungie Nogela

Mario Petersen

Document Classification: Controlled Disclosure

**TECHNICAL EVALUATION CRITERIA FOR THE PTM&C EQUIPMENT & COMMISSIONING
ASSOCIATED: PAULPUTS & AGGENEIS SUBSTATION**

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Annexure A: A&B Technical Schedule

This Annexure must be completed, signed, and submitted.

Schedule A: Purchasers specific requirements. Each of these requirements are equally weighted.

Schedule B: Tenders to stipulate “**Comply**” or “**Do not Comply**”. All equipment supplied must be identical to the master drawings and wired identically in order to respond “**Comply**”.

| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|--|---|------------|------------|----------|
| 1. | Full compliance to Drawing No: 0.52/30440 and 0.52/30492, in respect of equipment supplied and wiring. | Master Drawing for 6TAB-2300 M1 & M2. Note: Where component obsolesce 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. | Comply | | |
| 2. | Full compliance to Drawing No: 0.52/30553 and 0.52/30554, in respect of equipment supplied and wiring. | Master Drawing for 6DIP-2110 M1 & M2. Note: Where component obsolesce 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. | Comply | | |
| 3. | Full compliance to Drawing No: 0.52/30551 and 0.52/30552, in respect of equipment supplied and wiring | Master Drawings for 6FZDB-2110 M1& M2 Note: Where component obsolesce 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 | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|---|--|------------|------------|----------|
| 4. | Full compliance to Drawing No: 0.52/30555 and 0.52/30556, in respect of equipment supplied and wiring | Master Drawings for 6FZD-2110 M1& M2 Note: Where component obsolesce 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 | Comply | | |
| 5. | Full compliance to Drawing No: 0.52/30637, 0.52/30586 in respect of equipment supplied and wiring. | Master Drawings for 6TCP-2101, 6TC-2101-1 Note: Where component obsolesce 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. | Comply | | |
| 6. | Full compliance to Drawing No: 0.52/30453 and 0.52/30447 in respect of equipment supplied and wiring | Master Drawings for 6BZB 2910 and 6BZ 2310 Note: Where component obsolesce 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. | Comply | | |
| 7. | Full compliance to Drawing No: 0.52/30114, in respect of equipment supplied and wiring. | Master Drawings for 6DRB-7100 | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|--|---|------------|------------|----------|
| | | Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> 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. | | | |
| 8. | Full compliance to Drawing No: 0.54/6731, in respect of equipment supplied and wiring for 400 kV Line VTJB. | Master Drawing for JB-0700 Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> discretion prior to delivery of the equipment. | Comply | | |
| 9. | Full compliance to Drawing No: 0.54/6731, in respect of the design for 400 kV Connector 1 & 2 VTJBs, Transformer VTJB. 400kV Busbar 1 & 2 VTJBs | Master Drawing for JB-0700 Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> discretion prior to delivery of the equipment. | | | |
| 10. | Full compliance to Drawing No: 0.52/30268, sheet number 10, in respect of equipment supplied and wiring. | NSD570 – Refer to Sheet 10 Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> discretion prior to delivery of the equipment. | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|--|--|------------|------------|----------|
| 11. | Full compliance to Drawing No: 0.52/30555, sheet number 14 in respect of equipment supplied and wiring. | NSD570 – Refer to Sheet 14 Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> discretion prior to delivery of the equipment. | Comply | | |
| 12. | Full compliance to Drawing No: 0.52/30268, Sheet 19 & refer to 240-170000986, Annexure B in respect of equipment supplied, wiring and frequency. | Power Line Carrier – Refer to Sheet 19 & 240-170000986, Annexure B. Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> discretion prior to delivery of the equipment. | Comply | | |
| 13. | Full compliance to Drawing No: 0.52/30556, Sheet 14 & refer to 240-170000986, Annexure B in respect of equipment supplied, wiring and frequency. | Power Line Carrier – Refer to Sheet 14 & 240-170000986, Annexure B. Note: Where component obsolesce or other reasons predicate changes to the existing design, <i>Suppliers</i> shall propose alternatives, while minimising impact to the existing design, for acceptance by <i>Purchaser</i> at the <i>Purchaser's</i> discretion prior to delivery of the equipment. | Comply | | |
| 14. | Full compliance to Drawing No: 0.52/30578 and 0.52/30579, in respect of equipment supplied and wiring. | Master Drawings for Gateway Panels (6AGW-2101 M1 & M2) | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|--|---|------------|------------|----------|
| | | Note: Where component obsolesce 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 Server version is supplied for a scheme, then a configuration file with identical functionality must be supplied by the tenderer. | | | |
| 15. | Full compliance to Drawing No: 0.52/30580 and 0.52/30581, in respect of equipment supplied and wiring. | Master Drawings for HMI Server Modules (6AHMI-2100 M1 & M2) Note: Where component obsolesce 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 Server version is supplied for a scheme, then a configuration file with identical functionality must be supplied by the tenderer. | Comply | | |
| 16. | Full compliance to Drawing No: 0.52/30513 and 0.52/30516, in respect of equipment supplied and wiring. | Master Drawings for Fibre Switching Panels (6AFS-2100 M1 & M2) Note: Where component obsolesce 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. | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|--|--|------------|------------|----------|
| 17. | Full compliance to Drawing No: 0.52/30514, in respect Automation Common Equipment Panel (6ACE-2100) to be installed. | Master Drawing for Common Equipment Panel (6ACE-2100) Note: Where component obsolesce 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 | Comply | | |
| 18. | Full compliance to Drawing No: 0.52/30793 or 0.52/30796, in respect of equipment supplied and wiring. | Master Drawing for 6JB-#100 Note: Where component obsolesce 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. | Comply | | |
| 19. | Full compliance to Drawing No: 0.52/30794 or 0.52/30797, in respect of equipment supplied and wiring. | Master Drawing for 6JB-#200 Note: Where component obsolesce 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 | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|---|---|------------|------------|----------|
| 20. | Full compliance to Drawing No: 0.52/30571, in respect of the design for BMK/Panel supplied and wiring for breaker PIUs. | Master Drawing for 6JB-#300 Note: Where component obsolesce 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. | Comply | | |
| 21. | Full compliance to Drawing No: 0.52/30131, in respect of equipment supplied and wiring. | Master Drawing for Metering (S8-Master) Note: Where component obsolesce 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 | Comply | | |
| 22. | Full compliance to Drawing No: 0.73/00075 and 0.73/00073 in respect of equipment supplied and wiring. | Master Drawing for 220 V DC and 50 V DC Panel. Note: Where component obsolesce 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. | Comply | | |
| 23. | Full compliance to Drawing No: 0.52/20252 or 0.54/7466, in respect of equipment supplied and wiring. | Master Drawing for 400 V AC Transformer Distribution Board Note: Where component obsolesce 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. | Comply | | |

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| No. | Requirements | Description | Schedule A | Schedule B | Comments |
|-----|---|---|------------|------------|----------|
| 24. | Full compliance to Drawing No: 0.54/7106, in respect of equipment supplied and wiring. | Master Drawing for 230 V AC Distribution Board Type 4 Note: Where component obsolesce 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. | Comply | | |
| 25. | Full compliance to Drawing No: 0.52/20251, in respect of equipment supplied and wiring. | Master Drawing for 1PB-0100 Note: Where component obsolesce 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. | Comply | | |

Signed by: _____

Signature: _____

Date: _____

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Annexure B: Engineering Schedule

This Annexure must be completed, signed and submitted.

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

Schedule A: Purchasers specific requirements. Each of these requirements are equally weighted.

Schedule B: Tenders to stipulate **“Comply”** or **“Do not Comply”**.

| No. | Requirements | Comment | Schedule A | Schedule B | Comments |
|-----|--|---|------------|------------|----------|
| 1. | Compliance to 240-68980568 – Standard for the Application of Transmission and Distribution Protection Schemes; | Application Engineering should comply to Eskom’s standard approach to application engineering to ensure a consistent look and feel across Transmission installed infrastructure to facilitate operations and maintenance, and to facilitate lifecycle management and possible future expansion of the infrastructure. | Comply | | |
| 2. | Compliance to 240-96632721 Secondary Plant Drawing Practice Standard for Transmission and Distribution | Drawings should comply to Eskom’s standard approach to ensure a consistent format across all drawings. | Comply | | |
| 3. | Control layout drawing as per existing drawing no 10.07/15718 | Additional equipment in terms of this scope to be added to the existing control room layout. | Comply | | |
| 4. | Compliance to 240-170000395 - Substation Control and Automation Application Guide for Phase 6 Siemens Solution | Application Engineering should comply to Eskom’s standard approach to application engineering to ensure a consistent look and feel across Transmission installed infrastructure to facilitate operations and maintenance, and to facilitate lifecycle management and possible future expansion of the infrastructure. | Comply | | |

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Signed by: _____

Signature: _____

Date: _____

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Annexure D: Schedule for Commissioning

Tenders are required to propose a schedule for commissioning (task sequencing and duration) incorporating the procedure(s) developed in Annexure B, in compliance with the Scope of Work; whilst considering and ensuring the continuity of existing operations. This schedule will be scored against Table 3. The schedule for commissioning refers to a list of activities and the order in which the activities will be performed, with corresponding timelines. Use as many pages as required to provide details.

| Activity Name | Activity Description | Start Date | End Date |
|---------------|----------------------|------------|----------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Signed: _____ (Company Rep) **Date:** _____

Rep Name: _____

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Annexure E: Tool List

Please, complete this annexure, and submit it with the tender document. Examples are provided below; however, this is not an exhaustive list. Ensure that you list all relevant tools required for the project.

| Tools to be used for construction | Description | Requirement (e.g. per person / per team / per section) | Indicate if owned(O) or to be hired(H)** |
|-----------------------------------|--|--|--|
| Technicians Toolbox | Pliers, side cutters, insulated screw drivers, strippers, etc | Per Team | |
| JST insulated lug crimper | Crimper for crimping reinsulated lugs – quality of crimp connection to be certified per tool | Per Team | |
| Hand-held radio set | Hand-held radio set | Per Team | |
| Anti-static wrist strap | 3 m | Per technician | |
| Test Leads | 2.5mm ² with a minimum of 2m leads with a 3m length | Per Team | |
| Universal panel key | To Open Panels | Per Team | |
| Crimper | Red, Blue and Yellow lugs | Per Team | |
| Crimper | leg. Sumner RF Connectors, with jaws for LMR 400, LMR 195, RG213 | Per Team | |
| Test handles | Test block PK2 - 4 way | 2 per technician | |
| Test handles | Test block PK2 - 6 way | 1 per technician | |
| Metering Seals | Traceable Plastic/Wire and Ferrule seals for sealing meters and test blocks | Per technician | |
| 1000V rated Torque wrench | Gedore 5 to 54 Nm - with insulated sockets (8,10,13,17,19) | Per Team | |

****When tools would be hired, a hiring letter from the reputable hiring agency is required**

DECLARATION: I hereby confirm that the tools list above is a true reflection of the tools owned or hired by my Company.

I will also ensure that all tools will be enough to cater for multiple full teams and tools that require calibration will have valid calibration certificates before the execution of work.

Signed: _____ (Company Rep) **Date:** _____

Rep Name: _____ **Tendering Company:** _____

Annexure F: Test Equipment List

Please, complete this annexure, and submit it with the tender document. Examples are provided below; however, this is not an exhaustive list. Ensure that you list all relevant test equipment required for the project.

| Test equipment to be used for construction | Description | Requirement (e.g. per person / per team / per section) | Valid test / calibration certificate no. | Serial no. | Indicate if owned(O) or to be hired(H)** |
|--|---|--|--|------------|--|
| AC Current clamp 0-5A | Accuracy +/- 2% of reading, safety CAT III 500V, 10mm jaw inner diameter (max) | Per team | | | |
| AC Current clamp 0-1000A | Accuracy +/- 2% of reading, safety CAT III 500V, 55mm jaw inner diameter (min) | Per team | | | |
| Digital multi-meter | 1 1/2 Digit true RMS as per DSP 34-1053 | Per technician | | | |
| Insulation tester 500V | | Per team | | | |
| Insulation tester 5kV | | Per site | | | |
| Laptop with 3G capability | Suitable Laptop dependant on software requirements | Per technician | | | |
| Relay communication cables | All relevant cables for the service area | Per technician | | | |
| IEC61850 Test Tools | | Per Site | | | |
| Secondary Injection test set including all required test leads | e.g., suitably calibrated Omicron 356 or 256, or equivalent GPS Time synchronisation required for feeder commissioning | Per team | | | |

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|---|---|----------------|--|--|--|
| Primary injection test set including all required test leads, including portable test leads to connect to primary conductor | e.g., suitably calibrated CPC 100 or equivalent with sufficient test leads | Per team | | | |
| Current Transformer test set including all required test leads | e.g., suitably, suitably calibrated CT Analyser or equivalent with sufficient test leads | Per site | | | |
| Voltage Transformer test set including all required test leads | e.g., suitably calibrated Voltano or equivalent with sufficient test leads | Per site | | | |
| Meter accuracy verification test unit | Metas320 test unit /MTE or similar including 3X Clip-on current sensors with 1A & 5A ranges | Per team | | | |
| Optical eye | Universal type for meter programming | Per technician | | | |
| Polarity tester | | Per team | | | |
| Discharge Unit | Torquel 880 | Per Team | | | |
| Digital hydrometer | Anton Paar | Per Team | | | |
| FMC20010 | Voltage Unit | Per Team | | | |
| Digital hydromete | Anton Paar | Per Team | | | |
| State-of-Health tester | Impedance or conductance tester | Per Team | | | |
| Scopemeter | Fluke | Per Team | | | |
| Circuit breaker simulator | | Per team | | | |
| Audio measuring set | | Per team | | | |

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|--|----------|----------|--|--|--|
| Handheld Signal Strength measuring set (FSM 500) | | Per team | | | |
| LAN tester | | Per team | | | |
| Bird Watt meter or VSWR meter | | Per team | | | |
| ASE2900 Communication Test Set | V1 or V2 | per Team | | | |

***When test equipment would be hired, a hiring letter from the reputable hiring agency is required.*

DECLARATION: I hereby confirm that the test equipment list above is a true reflection of the test equipment owned or hired by my Company.

I will also ensure that all test equipment will be enough to cater for multiple full teams and equipment that require calibration will have valid calibration certificates before the execution of work.

Signed: _____(Company Rep)

Date: _____

Rep Name: _____

Tendering Company: _____

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Annexure G: Software List

Please, complete this annexure, and submit it with the tender document. Examples are provided below; however, this is not an exhaustive list. Ensure that you list all relevant software required for the project.

| Computer test software** to be used for construction (include Version no.) | Description of what the software does (and also which relay scheme it is used with) | Requirement | Indicate if owned(O) or to be Purchased (P) |
|--|---|----------------|---|
| Dmicon Test Universe V4.0 (Update as released) | Secondary injection of relays | Per Team | |
| Primary Test Manager V3.4 | Primary testing transformers, VTs and bushings one analysis | Per Team | |
| DT Analyzer Suite V6 | DT Testing and analysis | Per Team | |
| FRAnalyzer V2.2 | Sweep frequency test on transformer | Per Team | |
| PowerDB1111a | Megger insulation resistance testing | Per Team | |
| Wireshark 2.2.1 or latest | Sniff network packets, eg. IEC61850 GOOSE | Per Team | |
| IED Scout | IEC61850 Network Software | Per Team | |
| PCM600 2.3 and 2.10 | To connect to ABB Relion series relays RED760, REF815 | Per Team | |
| DIGSI 4.3d | Connect to Siemens 7SS Bus Zone relay | Per Team | |
| Qualitvd | Connect to disturbance recorder | Per Team | |
| Specific Point of Wave Software | Point of Wave relays | Per Team | |
| REG-D Software | Tap changer software | Per Team | |
| METES 320 Software | Meter accuracy verification METES 320 software | Per Team | |
| ION Setup | Schneider PM8000 configuration software | Per technician | |
| Landis + Gyr MAP 120 | Landis + Gyr configuration software | Per technician | |

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| | | | |
|---|--|----------------|--|
| Landis + Gyr MAP 110 | Landis + Gyr configuration/downloading software | Per technician | |
| Dsprey Lite | Configuration software for CT Labs Vecto II | Per technician | |
| Cordex Controller Software | Relevant Cordex controller software with corresponding software and bootloader/operating system versions. Detail the software/bootloader/operating system versions | Per Technician | |
| ASE2000 Communication Test Set V1 (Driver ver 1.1.0.33) | Driver for ASE Protocol Test Set | per Team | |
| ASE2000 Communication Test Set V2 (Driver ver 2.7.0.0) | Driver for ASE Protocol Test Set | per Team | |
| ABB ITT900 (Integrated Testing Tool) (V2.0 or later) | Integrated Testing Tools for AB IEC61850 commissioning | per Team | |
| ABB RTU8560 (Ver 7.1.1.0) | Configure ABB RTU860 CMU04 (500 series Id schemes) | per Technician | |
| ABB RTU8560 (Ver 9.9.2.0) | Configure ABB RTU860 CMU05 (670 series Id schemes) | per Technician | |
| ABB RTU8560 (Ver 7.6.1.0) | Configure ABB RTU860 CMU04 (SVCs & Komsberg Series CB) | per Technician | |
| ABB RTU8560 (Ver 6.3.230.1) | Configure ABB RTU860 SLI (Proteus & Bacchus Series CB) | per Technician | |
| Unicon (Ver 1.7.24) | Configure IST Takus RTU or BR devices | per Technician | |
| GE Config Pro (V8.00) | Configure CED20 & D25 RTUs | per Technician | |
| GE DS Agile Studio (V2.5) | Configure D400 Firmware ver 5.5 | per Technician | |
| GE Energy JEG 61850 Loader (Ver 2.1.4.6344) | Configure D400 Firmware ver 2.75 | per Technician | |
| GE D400 Utilities (Ver 1.5) | Configures D400 | per Technician | |
| GE D400 Utilities (Ver 2.0.0.6344) | Configures D400 | per Technician | |
| D400 Runtime HMI (Ver 5.3) | DSAS D400 Browser | per Technician | |
| CIRC (Ver 1.54) | Configure D400 Interlocking | per Technician | |

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| | | | |
|---|--|----------------|--|
| IST Estax (Ver 2.00) | PC Estax Protocol Simulator | per Technician | |
| IST RTU Logger (Ver 1.09 (2010Build)) | IST serial logs upload | per Technician | |
| IST VT Terminal | IST Telus RTU Terminal Emulator | per Technician | |
| Siemens SICAM PAS (Ver 9.17) | Siemens Gateway Software | per Technician | |
| WINCC Runtime (Ver 7.5 SP2 + Update) | Siemens HMI software | per Technician | |
| SICAM SCC (Ver 3.07) | Siemens HMI software | per Technician | |
| Schneider Electric Vijeo Citect SCADA Software (Ver 2015) | Citect HMI software | per Team | |
| DIGSI 5 (Ver 7.5) | Configure Siemens Siprotec IEDs (Pinotage SS only) | per Team | |
| DIGSI 5 (Ver 8.7) | Configure Siemens Siprotec IEDs | per Team | |
| SEL AcSELerator Archited (Ver 2.1 B.1014) | Configure SEL IEC 61850 systems | per Technician | |
| SEL AcSELerator RTAC (1.32.148.7003) | Configure SEL RTAC devices | per Technician | |
| IEC Browser (V03.50) | IEC61850 Diagnostic Tool | per Technician | |

DECLARATION: I hereby confirm that the software list above is a true reflection of the software owned or hired by my Company.

I will also ensure that all software will be enough to cater for multiple full teams and software that require licenses will be procured and activated before the execution of work.

Signed: _____(Company Rep)

Date: _____

Rep Name: _____

Tendering Company: _____

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Annexure H: Training Courses per technician

Please, complete this annexure, examples are shown, and submit it with the tender document, indicating the training and courses related to this tendered project that each employee (to be involved with this tendered construction project) has undergone. This requirement also includes employees who would be employed on temporary basis for this tendered project.

Submit copies of the training certificates and these copies must be certified by the Commissioner of Oaths, with a signature and date not older than three months from the tender closing date.

Training certificates need to be still valid on the date of tender close. Certificates that have expired prior to this date would not be accepted as valid evidence.

| | | |
|--|---------------|-------------|
| Name and surname | | |
| Position held | | |
| Related training and courses completed | Date obtained | Expiry date |
| Competency in power system protection including breaker and a half operation Eg. reading technical drawings, substation automation using IEC61850, secondary plant injection test tests, primary plant injection test tests | | |
| Competency in Control and Automation | | |
| Competency in SCADA | | |
| Competency in Metering | | |
| Competency in Teleprotection | | |
| Competency in DC & Auxiliary Systems | | |
| Competency in Access Control & Security Systems | | |
| GRHVS as a Responsible/Authorised Person | | |
| <p>DECLARATION: I hereby confirm that the training courses above is a true reflection of the resource employed by my company.</p> <p>Signed: _____(Company Rep) Date: _____</p> <p>Rep Name: _____ Tendering Company: _____</p> | | |

Annexure I: Organogram, CV's & Project Experience

Tenderers are required to submit company organogram together with CV's of each key person that will work on this scope. Also, please complete all sheets to this annexure and submit it with the tender document.

Note: Tenderers are requested to indicate if Eskom may contact customers listed below for reference feedback. To this end Eskom may request contact details during the evaluation.

| Equipment or device description | Has the tenderer installed it before? [Yes / No] + [Reference] | Has the tenderer tested it before? [Yes / No] + [Reference] | Has the tenderer commissioned it before? [Yes / No] + [Reference] |
|---|--|--|--|
| <i>(For example, for a current transformer)</i> | <i>Yes – Customer, Site Name, Date, Responsible Technician Name,</i> | <i>Yes – Customer, Site Name, Date, Responsible Technician Name,</i> | <i>Yes – Customer, Site Name, Date, Responsible Technician Name,</i> |
| 1. Microprocessor based relay/scheme with digital communications used for the protection of a power TRANSMISSION FEEDER with voltages rated from 220 kV to 765kV | | | |
| 2. Microprocessor based relay/scheme with digital communications used for the protection of a power TRANSMISSION FEEDER SCHEMES WITH TRANSFER with voltages rated from 220 kV to 765kV | | | |
| 2. Microprocessor based relay/scheme with digital communications used for the protection of power SUB-TRANSMISSION FEEDER with voltages rated from 11 kV to 132 kV | | | |
| 3. Microprocessor based relay/scheme with digital communications used for the protection of POWER TRANSFORMER (2-winding or 3-winding) with terminal voltages rated from 11kV to 765kV | | | |

Annexure I: Project Experience Continued

| Equipment or device description | Has the tenderer installed it before? [Yes / No] + [Reference] | Has the tenderer tested it before? [Yes / No] + [Reference] | Has the tenderer commissioned it before? [Yes / No] + [Reference] |
|---|---|--|--|
| 4. Microprocessor based relay/scheme with digital communications used for the control of the ON-LOAD TAP CHANGER of a power transformer (2-winding or 3-winding) with terminal voltages rated from 11kV to 765kV | | | |
| 5. Microprocessor based relay/scheme with digital communications used for the BUSBAR ARC DETECTION protection with terminal voltages rated from 11kV to 765kV | | | |
| 6. Microprocessor based relay/scheme with digital communications used for the protection of a BUSZONE with voltages rated from 11kV to 765kV | | | |
| 7. Microprocessor based relay/scheme with digital communications used for the BUSSECTION protection with voltages rated from 11kV to 765kV | | | |
| 8. Microprocessor based relay/scheme with digital communications used for the BUSCOUPLER protection with voltages rated from 11kV to 765kV | | | |
| 9. Microprocessor based relay/scheme with digital communications used for the CAPACITOR BANK protection with voltages rated from 132kV to 765kV | | | |

Annexure I: Project Experience Continued

| Equipment or device description | Has the tenderer installed it before? [Yes / No] + [Reference] | Has the tenderer tested it before? [Yes / No] + [Reference] | Has the tenderer commissioned it before? [Yes / No] + [Reference] |
|--|--|---|--|
| 10. Microprocessor based relay/scheme with digital communications used for the protection of REACTOR with terminal voltages rated from 11kV to 765kV | | | |
| 11. Microprocessor based relay/scheme with digital communications used for the UNDER FREQUENCY LOAD SHEDDING (UFLS) protection with voltages rated from 11kV to 132kV | | | |
| 12. Microprocessor scheme with digital communications used for REMOTE ENGINEERING of substation protection and control equipment and devices | | | |
| 13. MAGNETIC VOLTAGE TRANSFORMER with primary terminal voltages ranging from 11kV to 765kV | | | |
| 14. CURRENT TRANSFORMER with primary terminal voltages ranging from 11kV to 765kV | | | |
| 15. CAPACITOR VOLTAGE TRANSFORMER , with the primary terminal voltage ranging from 220kV to 765kV | | | |
| 16. BREAKER AND A HALF CONFIGURATIONS , with the primary terminal voltage ranging from 132kV to 765kV | | | |

Annexure I: Project Experience Continued

| Equipment or device description | Has the tenderer installed it before? [Yes / No] + [Reference] | Has the tenderer tested it before? [Yes / No] + [Reference] | Has the tenderer commissioned it before? [Yes / No] + [Reference] |
|--|--|---|--|
| 17. Microprocessor relay/scheme with digital communications used for <u>DISTURBANCE RECORDERS</u> of substation protection and control equipment and devices. | | | |
| 18. Microprocessor relay/scheme with digital communications used for <u>QUALITY OF SUPPLY</u> of substation protection and control equipment and devices. | | | |
| 19. <u>SCADA</u> , with the primary terminal voltage ranging from 11kV to 765kV | | | |
| 20. <u>METERING</u> , with the primary terminal voltage ranging from 11kV to 765kV | | | |
| 21. <u>TELEPROTECTION</u> , with the primary terminal voltage ranging from 11kV to 765kV | | | |
| 22. <u>SUBSTATION TELECONTROL AND NETWORKING EQUIPMENT</u> | | | |
| 23. <u>DC & AUXILIARY SYSTEMS</u> | | | |
| 24. <u>ACCESS CONTROL & SECURITY SYSTEMS</u> | | | |
| 25. <u>MODEM</u> | | | |
| 26. <u>TRANSDUCER</u> | | | |

DECLARATION: I hereby confirm that the Project Experience above is a true reflection of the resource employed by my company.

Signed: _____ (Company Rep) Date: _____

Rep Name: _____ Tendering Company: _____

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