

**SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LIMITED
HYDERABAD
(Govt of Telangana Undertaking)**



Through e-procurement mode only-<https://tender.telangana.gov.in>

RFP / BID No. Chief Engineer/Projects/TGSPDCL/SCADA DMS : 03/2025-26

NAME OF THE WORK: Supply, Installation, configuration and commissioning of networking equipment for SCADA control center and field locations in SCADA-DMS project of TGSPDCL in Telangana state.

Online tenders are invited by the Chief Engineer (Projects) for **Supply, Installation, configuration and commissioning of networking equipment for SCADA control center and field locations in SCADA-DMS project of TGSPDCL in Telangana state.**

PART-I

(TECHNICAL BID)

&

PART-II

(PRICE BID)

Chief Engineer
Projects, TGSPDCL,
4th Floor, Corporate office,
Mint Compound, Hyderabad - 500063.

Phone: 040-23431321
Email: cgmproj@tssouthernpower.com
cgmproj99@gmail.com



SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD.

(A Govt. of Telangana Undertaking)

(Formerly Central Power Distribution Company of Andhra Pradesh Ltd.)

Corporate Office, 6-1-50, Mint Compound :: Hyderabad-63(Telangana State, India)
CIN U40109TG2000SGC034116

e-Procurement Tender Notice

TGSPDCL intends to float tenders for Supply, Installation, configuration and commissioning of networking equipment for SCADA control center and field locations in SCADA-DMS project of TGSPDCL in Telangana state.

TGSPDCL on e-procurement platform. The details are as tabulated below.

| Sl. No | Name of the work | Specification No. | Date & time of downloading tender document | Closing Date & time for submission of bid |
|--------|--|--|--|---|
| 1. | Supply, Installation, configuration and commissioning of networking equipment for SCADA control center and field locations in SCADA-DMS project of TGSPDCL in Telangana state. | CE(Projects)/ TGSPDCL/ SCADA DMS : 03/ 2025-26 | 30 .08.2025 from 17:30 hrs | 20 .09.2025 upto 12:00 Hrs |

For further details regarding detailed tender notification, specifications and digital certificate please visit <https://tgsouthernpower.org/> and tender.telangana.gov.in or contact the helpdesk of the site.

Phone: 040-23431321

CHIEF ENGINEER/ PROJECTS

TABLE OF CONTENTS

| SECTION | DESCRIPTION | PAGE NO. |
|-------------|---|-----------|
| I | Notice inviting bids | 4 |
| II | Salient Features of the Bid | 11 |
| III | Instructions to Bidders | 13 |
| IV | Technical Specifications | 36 |
| V | Schedule of requirements & bill of quantities & prices | 52 |
| VI | Qualification Requirements | 54 |
| VII | Sample Forms | |
| 1) | Bid Form | 61 |
| 2) | Qualification Information | 62 |
| 3) | Security Forms | 65 |
| 3a) | Bid Security Form | 66 |
| 3b) | Performance Security Form | 67 |
| 4) | Contract Form | 68 |
| 5) | Details to be furnished by the Manufacturer (FORMAT-A) | 70 |
| 6) | Schedule of deviations (Technical & Commercial) | 71 |
| 7) | Declaration Form | 71 |
| VIII | General Conditions of Contract | 72 |

NOTE:

1. Payment terms, Delivery period, Performance Bank Guarantee, Taxes and Duties” should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note that the conditional offers are also not considered. Hence the bidder shall submit the tender in line with the terms and conditions of the specification.
2. The bidders shall check the website <https://tgsouthernpower.org/> and www.tender.telangana.gov.in for amendments, if any, up to one day prior to the date of tender opening. The amendments shall be binding on the bidders.
3. The Employer will not be responsible for any damage that may be caused to the samples at any time.
4. The bidder shall furnish required Bid Security amount and validity as per specification. If the bidder fails to furnish bid security amount and bid validity as stipulated in the specification, such tender bid will not be considered for further evaluation.
5. The bid evaluation will be carried out based on the documents uploaded through www.tender.telangana.gov.in against this tender.
6. The Bids received with any details pertaining to prices in the offline mode will be liable for rejection.
7. EMD Exemption is considered only for Government Firms.

Ph : 040 – 23431321.

**CHIEF ENGINEER / PROJECTS
TGSPDCL**

SECTION – I

NOTICE INVITING BIDS



SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LTD.

(A Govt. of Telangana Undertaking)

(Formerly Central Power Distribution Company of Andhra Pradesh Ltd.)

Corporate Office, 6-1-50, Mint Compound :: Hyderabad-63(Telangana State, India)

CIN U40109TG2000SGC034116

Notice for Inviting the Bid:

The Southern Power Distribution Company of Telangana Ltd is seeking **Supply, installation, configuration and commissioning of networking equipment to support an MPLS-based M2M connectivity solution for SCADA control center, capable of handling field locations with dual SIM, dual-active routers in SCADA-DMS project of TGSPDCL in Telangana state.**

The TGSPDCL invites bids for Routers and Modems for setting up connectivity for SCADA Control Center, SCADA integrated Substations and all DMS Equipments installed in the field to the existing SCADA system using IEC 60870-5-104 protocol of TGSPDCL SCADA, project. The equipment provider in coordination with utility as per the requirement to be given in this detailed RFP/Bid shall carry out field survey, design, engineering, supply, install, configure and test the FO link at CC/DC for SCADA control center & CPE devices at all locations.

The tender includes:

- Field Routers: 242nos dual SIM, dual-active, high-speed 4G LTE cellular routers deployed at remote sites with specified port and antenna configurations in the specifications.
- Field MODEMS: 1608nos dual SIM, dual-active, high-speed 4G LTE cellular MODEMS deployed at remote sites with specified port and antenna configurations in the specifications.
- Control Center PE Routers: Multiple pairs of redundant PE routers to aggregate traffic from four service providers' MPLS hubs and route it to redundant SCADA servers.
- Configuration: Initial setup, configuration, and testing of all routers & MODEMS to ensure compatibility with IEC 104 and MPLS infrastructure for 4000 locations.
- Documentation and Training: Detailed configuration guides, network diagrams, and training for the operational team.
- Support and Maintenance: Minimum 5-year warranty and support, including firmware updates and technical assistance.
- The selected equipment provider shall work in close coordination with TGSPDCL to execute the scope of work as detailed in this Request for Proposal (RFP). The responsibilities include but are not limited to:
- Comprehensive field survey and site assessment for all Control Centers (CC/DC), substations, and field devices.

- Design and engineering of the communication solution to meet SCADA operational requirements.
- Supply, installation, and commissioning of edge communication equipment including industrial-grade Routers and Modems.
- Configuration and integration of all equipment to ensure seamless data exchange with the existing SCADA backend over IEC 60870-5-104 protocol.
- Deployment of Customer Premises Equipment (CPE) at all designated locations.
- Establishment of secure, scalable, and redundant communication links between field devices and SCADA Control Centers.
- Testing, validation, and performance certification of the communication infrastructure post-deployment.
- Comprehensive support services for all supplied and commissioned equipment, including firmware updates, health monitoring, and fault resolution for the contract period.
- The proposed solution must ensure high availability, low latency, cybersecure, and protocol-compliant connectivity to support mission-critical SCADA operations and Smart Grid functionality in real-time.

SITE VISIT

- The Bidder is solely responsible for conducting a site visit, at their own risk and cost, to assess the existing site conditions, network environment, and surrounding infrastructure relevant to the SCADA-DMS project. It is strongly recommended that the Bidder performs a thorough field assessment to gather all necessary technical, logistical, and operational data required for the preparation of a responsive and comprehensive bid, as well as for successful execution of the contract. All costs associated with the site visit shall be borne entirely by the Bidder.

PROJECT EXECUTION

- **Training for Employees:**
- The Bidder shall organize training to the core Group of implementation team of the TGSPDCL as well as end user training. Representatives from the successful bidder, Purchaser's implementation project and change management teams will be involved throughout in the development of training strategy, training material design and development, standards and training delivery to ensure that change management issues are incorporated, and that training strategies and materials are aligned to the requirements of the project and as business-specific as possible

- **Integration Timeline Compliance:**
- Failure to integrate all 33/11kV substations and DMS equipment within the stipulated schedule shall constitute a breach of contract. TGSPDCL reserves the right to impose penalties, forfeit performance security, recover damages, or terminate the contract as deemed appropriate.

Details of Notice Inviting the Bid

| BID No. Chief Engineer/Projects/TGSPDCL/SCADA DMS : 03/2025-26 | | |
|---|--|---|
| S.No | Description | |
| 1 | Department Name | TGSPDCL |
| 2 | Office | O/o. Chief Engineer (Projects), Corporate Office, TGSPDCL |
| 3 | Tender Number | BID No. Chief Engineer/Projects/TGSPDCL/ SCADA DMS: 03/2025-26 |
| 4 | Mode of work Execution | EPC (Engineering, Procurement and Construction) Model service providing agency shall procure, erect, commission, provide communication and integrate in co-ordination with existing SCADA system integrator. FMS for 5 years shall be carried by the EPC service providing agency from the date of Go-live. |
| 5 | Project completion Schedule | 3 months from the date of LoA (letter of award) |
| 6 | Warranty Period | 60 months for all the supplied materials. |
| 7 | Tender Type | e-tender |
| 8 | Tender Category | Open |
| 9 | Bid Validity | 180 days |
| 10 | Bid Amount (INR) | 9.05 Crores |
| 11 | Bid Security (INR) | 2.36% of Bid Amount |
| 12 | Bid Security Payable to | In the form of DD in favour of Pay Officer/ TGSPDCL/ Hyderabad from Nationalized/Scheduled Bank or Bank Guarantee in favour of Chief Engineer/ Projects/ TGSPDCL/ Hyderabad (Receipt Bank account name: Pay Officer TGSPDCL, Acc no: 52086558583, Branch: Panjagutta, Hyd, IFSC: SBIN0020072) from Nationalized/Scheduled Bank as per format 3(a). The validity of the BG issued against Bid security will remain valid up to +45 (forty five) days after the period of Bid validity. |
| 13 | Transaction Fee | <u>Transaction fee:</u> All the participating bidders who submit the bids have to pay an amount @ 0.03% of their final bid value online with a cap of Rs.10000/- for quoted value of purchase up to Rs.50 crores and Rs.25000/- if the purchase value is above Rs.50 crores & service tax applicable as per GST as levied by Govt. of India on transaction fee through online in favour of M/s. TSTS. The amount payable to M/s. TSTS is non refundable. <u>Corpus Fund:</u> Successful bidder has to pay an amount of 0.04% on quoted value through demand draft in favour of Managing Director, TSTS, Hyderabad towards corpus fund at the time of concluding agreement. |
| 14 | Transaction Fee Payable to | TSTS, Hyderabad |
| 15 | Schedule downloading opening date online | 30 - 08-2025 from 17:30 Hrs |
| 16 | Date & time of pre-bid meeting | 09-09-2025 at 11:00 Hrs |
| 17 | Schedule downloading Closing Date | - |

| | | |
|----|--|--|
| | online | |
| 18 | Bid Submission Closing Date & time | 20 -09-2025 Upto 12:00 Hrs |
| 19 | Bid submission | On Line |
| 20 | Pre-Qualification & Technical Bid Opening Date (Qualification and Eligibility Stage and Technical Bid Stage) | 20 -09-2025 at 15:00 Hrs. |
| 21 | Price Bid Opening Date (tentative) (Financial Bid Stage) | 27 -09-2025 at 12:00 Hrs |
| 22 | Place of Tender Opening | O/o Chief Engineer/Projects, TGSPDCL, 4th Floor, Corporate Office, Mint Compound, Hyderabad – 500 063. |
| 23 | Officer Inviting Bids/ Contact Person | Chief Engineer/ Projects/ TGSPDCL/ Hyderabad. |
| 24 | Address/E-mail id | O/o. Chief Engineer/Projects, TGSPDCL, 4th Floor, Corporate Office, Mint Compound, Hyderabad – 500 063 Mail id : cgmproj@tssouthernpower.com cgmproj99@gmail.com |
| 25 | Contact Details/Telephone | Ph. No. 040-23431321. |
| 26 | Procedure for Bid Submission | <ol style="list-style-type: none"> 1. Bids shall be submitted online on www.tender.telangana.gov.in platform. 2. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website www.tender.telangana.gov.in. 3. Bidders can log-in to e-procurement platform in secure mode only by signing with the Digital certificates. 4. The bidders who are desirous of participating in e-procurement shall submit their technical bids, price bids as per the standard formats available at the e-market place. 5. The Bidders should scan and upload the following documents in support of technical bids and any other documents as specified in the ITB. The bidders shall sign on all the statements, documents, certificates uploaded by him, owning responsibility for their correctness/authenticity. <ol style="list-style-type: none"> a. Bid Security <ol style="list-style-type: none"> i) In the form of DD in favour of Pay Officer/ TGSPDCL / Hyderabad (or) Alternatively Bank Guarantee from Nationalized / Scheduled bank in favour of Chief General Manager/ Projects/ TGSPDCL/ Hyderabad as per format-3(a) enclosed (or) ii) If exempted give details of Bid Security Exemption (in case of Govt. Organization) b. Documents in proof of technical and financial eligibility as per Section-VI c. Brief Technical details of offered equipment/systems and other relevant documents in full shape attached to the bid. d. Financial Turnover certified by CA for last 5 years e. Duly filled and signed proforma as per Format A |

| | | |
|----|-------------------------------------|--|
| | | <p>f. A detailed project implementation plan and schedule manpower resources proposed to be deployed by the Contractor during the execution phase, shall be clearly indicated.</p> <p>g. Transaction fee payable to TSTS</p> <p>h. Performance Certificates issued by Head of Purchasing Authority (as per spec)</p> <p>6. The rates should be quoted in online only</p> <p>7. The Bidder should quote for 100% quantity indicated in the bid Specification. In any case, if the Bidder quotes for partial quantity, the Bidder will be disqualified.</p> |
| | | <p>8. After uploading the documents the copies of the uploaded statement, certificates, documents, original Demand Drafts/ Bank Guarantee in respect of Bid Security (except the Price bid/offer/break-up of taxes) are to be submitted by the bidder to the Chief General Manager/ Projects/ TGSPDCL so as to reach before the date and time of opening of the technical bid. Failure to furnish Original BG/DD before the date and time of opening of technical bid will entail in rejection of the bid. The Department shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc. furnished by the tenderer are found to be false/ fabricated/ bogus, the bidder will be disqualified, blacklisted, action will be initiated as deemed fit and the Bid Security will be forfeited.</p> <p>9. The department will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.</p> <p>10. The Documents that are uploaded online on e-market place will only be considered for Technical Bid Evaluation.</p> <p>11. Important Notice to Contractors, Suppliers and Department users</p> <p>(i) In the endeavor to bring total automation of processes in e-Procurement, the Govt. has issued orders vide G.O.Ms.No. 13 dated. 5.7.2006 permitting integration of electronic Payment Gateway of ICICI/HDFC Banks with eProcurement platform, which provides a facility to participating suppliers/ contractors to electronically pay the transaction fee online using their credit cards.</p> |
| 27 | Rights reserved with the Department | TGSPDCL reserves the right to accept or reject any or all of the tenders received without assigning any reasons. The TGSPDCL also reserves the right to split the tender and place orders on more than one tenderer at its discretion. |

SECTION - II

SALIENT FEATURES OF THE BID

SALIENT FEATURES OF THE BID

SUPERSSCRIPTION ON THE TENDER COVER

Specification No. Tender specification No. CE (Projects)/TGSPDCL/SCADA DMS
03/2025-26

Work :Supply, Installation, configuration, and commissioning of networking equipment to support an MPLS-based M2M connectivity solution for a SCADA control center, capable of handling field locations with dual SIM, dual-active routers in SCADA-DMS project of TGSPDCL in Telangana state.

Officer to whom the bid will be addressed: CE/Projects, Corporate Office/TGSPDCL

Superscription on the bid cover and the outer envelope

- a. Specification No. : SCADA DMS : 03/2025-26
- b. Due date and time for online submission: 30.08.2025 upto 12:00 Hrs
- c. Date and time of online opening : . 20.09.2025 upto 15:00 Hrs
- d. Payment of bid security
 - i) If paid give details: DD/BG No.____Dt.____ for Rs._____
 - ii) If exempted give details
- e. Whether 180 days validity offered(yes/no).
- f. Whether bid is made accepting payment terms Clause....(yes/no).
- g. Whether delivery is as per delivery schedule indicated....(yes/no)
- h Whether the samples has been enclosed/sent...(yes/no)
- i. Whether the quotation is in two parts (Yes/no)

Content of Bidding Documents:

The materials/equipment required, bidding procedures, and contract terms are prescribed in the bidding documents as listed below:

- i. Notice Inviting Bids.
- ii. Salient feature of the contract.
- iii. Instructions to Bidders.
- iv. Technical Requirements.
- v. Schedule of quantities & prices
- vi. Qualification Requirements.
- vii. Sample Forms.
 - Bid Form
 - Qualification information
 - Security Forms (Bid security & performance security)
 - Contract Form
 - Details to be furnished by the Manufacturer (**Format-A**)
 - Schedule of Deviations (Technical & Commercial)
 - Declaration Form
- viii. Contract Data
- ix. General terms and conditions of contract.

The Bidder is expected to examine all instructions, forms, terms and technical specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at Bidder's risk and may result in the rejection of its bid.

**CHIEF ENGINEER
(PROJECTS)
TGSPDCL**

SECTION - III

INSTRUCTIONS TO BIDDERS (ITB)

INSTRUCTIONS TO BIDDERS (ITB)**Table of Clauses**

| A | Introduction | Page No. |
|----------|---|-----------------|
| 1 | Definitions | 16 |
| 2 | Applicability | 17 |
| 3 | (a) Standards | 17 |
| 3 | (b) Interchangeability | 17 |
| 4 | Scope of Work | 17 |
| 5 | Eligible Bidders | 17 |
| 6 | Qualification of the Bidder | 18 |
| 7 | Site Visit | 18 |
| B | The Bidding Documents | 18 |
| 8 | Content of Bidding Document | 18 |
| 9 | Clarification of Bidding Documents | 18 |
| 10 | Amendment to Bidding Documents | 19 |
| C | Preparation of Bids | 19 |
| 11 | Language of the Bid | 19 |
| 12 | Cost Associated with Bidding | 19 |
| 13 | Documents Constituting the Bid | 19 |
| 14 | Bid Form | 20 |
| 15 | Bid Prices | 20 |
| 16 | Taxes & Duties | 21 |
| 17 | Statutory Variations | 21 |
| 18 | Bid Currencies | 21 |
| 19 | Quantity to Quote | 21 |
| 20 | Documents Establishing Bidders Eligibility and Qualifications | 22 |
| 21 | Bid Security | 22 |
| 22 | Bid Validity | 23 |
| 23 | Alternative proposals by Bidders | 24 |
| 24 | Tax Clearance Certificate | 24 |
| 25 | Service Condition | 24 |
| 26 | Format and Signing of Bids | 24 |

| | | |
|----------|--|----|
| D | Submission of Bids | 25 |
| 27 | Submission, Sealing and Marking of Bids | 25 |
| 28 | Deadline for Submission of Bids | 26 |
| 29 | Late Bids | 26 |
| E | Opening and Evaluation of Bids | 27 |
| 30 | Bid Opening | 27 |
| 31 | Clarification of Bids | 27 |
| 32 | Preliminary Examination | 27 |
| 33 | Evaluation and Comparison of Bids | 28 |
| 34 | Contacting the Purchaser | 30 |
| F | Award of Contract | 30 |
| 35 | Award Criteria | 30 |
| 36 | Employer's Right to Vary Quantities at Time of Award | 30 |
| 37 | Employer's Right to accept any Bid & to reject any or all bids | 31 |
| 38 | Notification of Award | 31 |
| 39 | Signing of Contract | 31 |
| 40 | Performance Security | 31 |
| 41 | Corrupt or Fraudulent Practices | 32 |
| 42 | Use of Contract Documents and Information | 32 |
| 43 | Patent Rights | 32 |
| 44 | Payment | 33 |
| 45 | Settlement of Disputes | 34 |

A. INTRODUCTION

1. DEFINITIONS

The following terms will be interpreted as indicated:

- a) **Bill of Quantities/schedule of quantities:** Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.
- b) **SCADA System:** Supervisory Control and Data Acquisition system enables to monitor and control the field substation equipment from remote area (control center) through installation of automation equipment (the main scope of this project).
- c) **Inbuilt IED :** SCADA compatible Breaker IED (Intelligent electronic device) relay which support IEC 61850 protocol. This project envisages to integrate those relays to SCADA Control center by connecting them in the substation Fiber optic (FO) loop and configuring the ICD/CID files in the RTU.
- d) **Defects Liability Period:** The Defects Liability Period shall be in force and effect up to the end of the Contract period for the Agreement Quantity.
- e) **The contractor** is a person or corporate body whose bid to carry out the works has been accepted by the employer.
- f) **The Contract Data** defines the documents and other information which comprise the bid accepted by the Employer.
- g) **The Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer consisting of a) Technical bid and b) Price bid.
- h) **"Days"** are calendar days; months are calendar months.
- i) **A Defect** is any part of the works not completed in accordance with the contract.
- j) **The Employer** is the party who will employ the Contractor to carry out the works. The Employer/ Utility/ Purchaser/ Discom/ TGSPDCL convey the same meaning.
- k) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site for undertaking the Works.
- l) **The Initial Contract Price** is the Contract Price listed in the Employer's Letter of Intent.
- m) **The Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Employer by issuing an extension of time.
- n) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- o) **Plant** is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.
- p) **Site Investigation Reports** are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.
- q) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by Chief General Manager (Projects)
- r) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.
- s) **The Works** are what the Contract requires the Contractor to Construct, install, and turn over to the Employer, as defined in the Contract Data.
- t) **Operational Go-Live :** The Operational Go-Live is the date of completion of the Works as certified by the Superintending Engineer/SCADA along with integration and communication to the CC

- u) **SCADA Control Centre (CC)** is a center stationed at TGSPDCL SCADA Circle office for providing information and support on 33/11Kv SCADA system as per the periodicity defined.
- v) **Data Center:** Data center is same as SCADA Control center.

2. APPLICABILITY

These General Conditions of contract will apply to the extent that they are not superseded by provisions of Salient features of the Bid.

3(a). STANDARDS

The Materials/ equipment supplied under this Contract will conform to the Standards mentioned in the Technical specifications, and, when no applicable standard is mentioned, the authoritative standards appropriate to the Materials / equipment i.e., BIS, such standards will be the latest. All material will be of the best class and will be capable of satisfactory operation under tropical conditions without distortion or deterioration.

3(b). INTERCHANGEABILITY

All similar materials and removable parts of similar equipment will be interchangeable with each other. A specific confirmation of this should be furnished in the bid.

4. SCOPE OF WORK

The TGSPDCL invites bids for Routers and Modems for setting up connectivity for SCADA Control Center, SCADA integrated Substations and all DMS Equipments installed in the field to the existing SCADA system using IEC 60870-5-104 protocol of TGSPDCL SCADA, project. The equipment provider in coordination with utility as per the requirement to be given in this detailed RFP/Bid shall carry out field survey, design, engineering, supply, install, configure and test the FO link at CC/DC for SCADA control center & CPE devices at all locations.

The bidders may submit bids for all the works detailed in the “Instructions to Bidders”.

The successful bidder will be expected to complete the works by the intended completion date as per milestones specified in the contract data.

5. ELIGIBLE BIDDERS

- a. This Invitation for Bids is open to all eligible bidders. Any materials, equipment, and services to be used in the performance of the Contract shall have their origin in India.
- b. Bidders who meet qualifying requirement as specified in Section VI and supply the material and execute the work as stated in Section IV&V, of Bid specification only need quote. Bids which are not meeting the above criteria will not be considered.
- c. All bidders shall provide in Section VII, Forms of Bid and Qualification Information, a Statement that the Bidder is not associated, nor has been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Borrower to provide consulting services for the preparation or supervision of the works, and any of its affiliates shall not be eligible to bid.

- d. Government-owned enterprises in the Employer's country may only participate if they are legally and financially autonomous, operate under commercial law and are not a dependent agency of the Employer.
- e. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices in accordance with Clause 41.

6. QUALIFICATION OF THE BIDDER

Qualification of the Bidder shall be in accordance with the Section VI

7. SITE VISIT

The Bidder is solely responsible for conducting a site visit, at their own risk and cost, to assess the existing site conditions, network environment, and surrounding infrastructure relevant to the SCADA-DMS project. It is strongly recommended that the Bidder performs a thorough field assessment to gather all necessary technical, logistical, and operational data required for the preparation of a responsive and comprehensive bid, as well as for successful execution of the contract. All costs associated with the site visit shall be borne entirely by the Bidder.

B. BIDDING DOCUMENTS

8. CONTENT OF BIDDING DOCUMENTS

- 8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10:
 - i. Notice Inviting Bids.
 - ii. Salient feature of the contract.
 - iii. Instructions to Bidders.
 - iv. Technical Requirements.
 - v. Schedule of requirements, quantities & prices (**prices in online only**)
 - vi. Qualification Requirements.
 - vii. Sample Forms.
 - viii. Contract Data
 - ix. General terms and conditions of contract.
- 8.2 One set of schedule as original and other set (Xerox copy) as copy should be completed and submitted along with the Bid.
- 8.3 The Bidder is expected to examine all instructions, forms, terms and Technical specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not responsive to the bidding documents in every respect will be at Bidder's risk and may result in the rejection of its bid.

9. CLARIFICATION OF BIDDING DOCUMENTS

A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing at the Employer's address indicated in the invitation to bid or by mail. The Employer will respond to any request for clarification of the bidding documents, which are received earlier than 07 days prior to the deadline for submission of bids. Copies of the Employer's response will be forwarded to all

purchasers of the bidding documents, including a description of the enquiry but without identifying its source will be put on website of the employer or intimated by mail.

10. AMENDMENT TO BIDDING DOCUMENTS

- 10.1 At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.
- 10.2 All such amendments also would be made available on the website of TGSPDCL and e-procurement website and such amendments will be binding on the respective Bidders Any addendum thus issued shall be part & parcel of the Bidding document.
- 10.3 In order to allow prospective Bidders reasonable time in which to take the amendment into account in preparing their bids, the employer, at its discretion, may extend the deadline for the submission of bids.

C. PREPARATION OF BIDS

11. LANGUAGE OF THE BID

The bid prepared by the Bidder including all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, will be in English

12. COST ASSOCIATED WITH BIDDING

The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser, will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

13. DOCUMENTS CONSTITUTING THE BID

The Bid submitted by the Bidder shall comprise the following in sealed covers super scribing **Specification No., Bid security details, validity**

- (a) Bid Form in accordance with clause 14
- (b) Bid Security in accordance with clause 21
- (c) Price schedule (**only for online submission**) in accordance with clause 15
- (d) Technical Bid information
- (e) Qualification Information Form with documentary evidence establishing in accordance with Clause 20 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted.
- (f) Documentary evidence establishing that the Materials / equipment and ancillary services to be supplied by the Bidder are as per the Technical specification of the bidding documents; and
- (g) Tax clearance certificate
- (h) Schedule of Deviations
 - (a) Commercial
 - (b) Technical

(i) Performance Certificates for all the supplied equipment:

- (a) Performance certificates along with respective Purchase Order Copies from any DISCOM in India for the devices used must be IEC 60870-5-104 shall be submitted.
- (b) The offered make of the device shall be in successful operation for at least 2 years as on bid date

(j) Samples:

2 Nos of Samples for each(Router & MODEM)of the offered device shall be submitted for Proof of Concept as part of technical evaluation

(k) Proof of Concept (POC) Process to be taken up by bidder:

The bidder shall be responsible for demonstrating a Proof of Concept (PoC) involving the installation and communication between the Supervisory Control and Data Acquisition (SCADA) system, one 33/11kV substation, and one DMS equipment over two different telecom service provider networks. The scope includes bringing the required equipment to the Control Center and substation, installing and wiring the equipment, and ensuring complete system integration and functionality. A minimum of 48 hours of continuous, successful operation is required for PoC certification.

And any other materials required to be completed and submitted by bidders in accordance with these instructions. The documents listed under Sections V & VII shall be filled in without exception.

All the Schedules will be duly filled but not necessary in the sheets attached to the specification unless full details required in the schedules are furnished the Bids will be liable for rejection.

14. BID FORM

The Bidder will complete the Bid form and the appropriate Price Schedule (**in online only**) furnished in the bidding documents, indicating the Materials / equipment to be supplied, a brief description of the Materials/ equipment, quantity and prices.

15. BID PRICES

- 15.1 The contract shall be for whole works as described in Clause 4, based on the Priced Bill of Quantities (**in online only**) submitted by the Bidder.
- 15.2 The prices quoted shall be **FIRM**. Bids will be called for with prices FADS inclusive of packing and forwarding, GST and other legally permissible duties and levies wherever applicable, handling charges to cover the transport by road from destination railway station to site/stores and insurance.
- 15.3 It is the responsibility of the Bidder to inform himself of the correct rates of duties and taxes leviable on the materials at the time of bidding.
- 15.4 The Bidder shall indicate on the appropriate Price Schedule (**in online submission only**) the unit prices (where applicable) and total bid price of the Materials / equipment it proposes to supply under the contract.
- 15.5 Prices indicated on the price schedule (**in online only**) shall be separately quoted i.e., ex- works, GST and other taxes payable on the finished Materials / equipment with individual breakup for Taxes and Duties, etc.
- 15.6 Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and

prices in the Bill of Quantities. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.

- 15.7 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.
- 15.8 The rates and prices quoted by the bidder shall be fixed

16. TAXES AND DUTIES

- 16.1 All duties, taxes and other levies payable by the Contractor under the Contract, prevailing as on the date of deadline for submission of bids are included in the rates, prices and total bid price submitted by the bidder. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. The bidder shall be familiar with the tax laws of the country, unless otherwise specified in the contract.
- 16.2 If the rates of statutory levies assumed by the Bidder are less than the actual rates prevailing at the time of bidding, the Purchaser will not be responsible for such errors. If the rates of statutory levies assumed by the Bidder are later proved to be higher than the actual/correct rates prevailing at the time of bidding, the difference will be passed on to the credit of the Employer.
- 16.3 Notwithstanding anything above or elsewhere in the Contract, in the event that the input tax credit of the GST charged by the bidder is denied by the tax authorities to the Utility for reasons attributable to the bidder, the Utility shall be entitled to recover such amount from the bidder by way of adjustment from any of the subsequent invoices submitted by the bidder to the Utility.

17. STATUTORY VARIATIONS

Any increase in statutory levies shall be to the account of bidder. However any decrease in statutory levies shall be taken in to consideration to the advantage of the Employer (TGSPDCL) only.

18. BID CURRENCIES

The unit rates and the prices shall be quoted entirely in Indian Rupees; and will be paid in Indian Rupees Only.

19. QUANTITY TO QUOTE

The Bidder should quote for 100% quantity indicated in the bid Specification. In any case, if the Bidder quotes for partial quantity, the Bidder will be disqualified.

20. DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATIONS

The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.

The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted will establish to the Purchaser's satisfaction:

- (a) That the Bidder has the financial, technical, and production capability necessary to perform the contract;
- (b) That the Bidder meets the qualification criteria listed in Section VI. In addition the Bidder may furnish full particulars regarding supply of the material in question made so far to TGSPDCL during the last 5 years and other reputed utilities.

20.1 Documents Establishing Materials/ equipment Conformity to Bidding Documents.

The Bidder shall furnish as part of its bid, documents establishing conformity to the bidding documents of all Materials / equipment and services, which the Bidder proposes to supply under the Contract.

The documentary evidence of conformity of the Materials / equipment and the services to bidding documents may be in the form of literature, drawings, and data, and will consist of:

- (a) a detailed description of the essential technical and performance characteristics of the Materials / equipment;
- (b) the bidder should specifically mention about furnishing the test certificates and a specimen form of test certificate should be furnished along with the bid.
- (c) a list giving full particulars, including available sources and current prices of spare parts, special tools etc., necessary for the proper and continuing functioning of the Materials / equipment following commencement of the use of the Materials / equipment by the Purchaser; and
- (d) an item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsive-ness of the Materials / equipment and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

For purposes of the commentary to be furnished pursuant to above, the Bidder will note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Purchaser in its Technical Specifications, are intended to be descriptive only and not restrictive.

21. BID SECURITY

- 21.1 The Bidder shall furnish, as part of its bid, a Bid Security amount equal to 2.36% of bid amount. This amount should be paid by way of a crossed demand draft drawn on any nationalized/ scheduled bank in favor of the Pay Officer, TGSPDCL and payable at headquarters of the Purchaser. The crossed DD should invariably be furnished along with the bids. Alternatively the bidders may furnish a B.G. from any nationalized/scheduled bank in favor of CE/ Projects/ TGSPDCL (Receipt Bank account name: Pay Officer TGSPDCL, Acc no: 52086558583, Branch: Panjagutta, Hyd, IFSC: SBIN0020072) in original in lieu of DD as per the proforma attached. Photocopies of the bid security will not be accepted and will be rejected.

- 21.2 The fact of having enclosed bid security by **DD/BG** along with the bid should be clearly super scribed on the bid envelope.
- 21.3 Submission of bid security by way of cheque, cash, money order, call deposit will not be accepted and will be considered as disqualification.
- 21.4 Payment of bid security will be waived at the discretion of the TGSPDCL in the case of fully owned Government undertaking of the Central or State Government. Such undertakings should immediately apply and obtain exemption before submitting their Bids. They need only refer to the details of such exemption in their Bids. Exemption accorded by any organization other than TGSPDCL will not be considered.
- 21.5 Requests for exemption from payment of bid security will not be entertained in any other case.
- 21.6 Any bid not secured as above will be rejected by the purchaser.
- 21.7 Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiry of the period of bid validity prescribed by the Purchaser.
- 21.8 The successful Bidder's Bid Security will be discharged upon the Bidder signing the contract.
- 21.9 **The Bid Security may be forfeited:**
- (a) If a Bidder:**
- i. Withdraws its bid or alters its prices during the period of bid validity specified by the Bidder on the Bid Form, or
 - ii. Does not accept the correction of errors pursuant to Clause No.32.2; or
 - iii. Offers post Bid rebates, revisions or deviations in quoted prices and/ or conditions or any such offers which will give a benefit to the Bidder over others will not only be rejected outright but the original Bid itself will get disqualified on this account and the Bidder's bid security will be forfeited.
- (b) in the case of a successful Bidder, if the Bidder fails:**
- i. To sign the contract in accordance with Clause No.39.
 - ii. To furnish performance security in accordance with Clause No.40.
- 21.10 In cases where the Bid Cover Contains superscription of having furnished Bid Security by way of **DD/BG** but if the same is not found within, such Bids will be rejected and bidder will run the risk of being banned.

Note : The bidder shall furnish required Bid Security amount and validity (The validity of the bank guarantee shall be upto bid validity +45 days from the date of tender opening) as per specification. If the bidder fails to furnish bid security amount and bid validity as stipulated in the specification, such tender bid will not be considered for further evaluation.

22. BID VALIDITY

- 22.1 Bids shall remain valid for a period not less than 180 days after the deadline date of bid submission specified in Clause 28. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.
- 22.2 The bidders should clearly super scribe on the sealed envelopes of the bids about the validity. Bids not containing superscription of validity will be rejected and returned unopened.
- 22.3 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidder's responses shall be made in writing or by **e-mail**. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but

will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 21 in all respects.

23. ALTERNATIVE PROPOSALS BY BIDDERS

Bidder shall submit offers that comply exactly with the requirements of the bidding documents, including the basic technical design as indicated in the drawings and specifications. **Alternative offers with any conditions will not be considered.**

24. TAX CLEARANCE CERTIFICATES

Copies of Income Tax, Sales Tax and Turnover Tax certificates for the latest period from the appropriate authority will invariably be enclosed to the bid. In the case of proprietary or partnership firm it will be necessary to produce the certificate / certificates for the proprietor or proprietors and for each of the partners as the case may be. If the Bidder has already produced the certificate during the calendar year in which the bid is made, it will be sufficient, if particulars are given.

25. SERVICE CONDITIONS

25.1 The equipment/materials offered will be entirely satisfactory for operation under the climatic conditions indicated below:

| | | |
|-----|--|-------------------|
| (a) | Maximum ambient air temperature (in shade) | 45 ⁰ C |
| (b) | Maximum ambient air temperature (under sun) | 50 ⁰ C |
| (c) | Maximum daily average ambient air temperature | 35 ⁰ C |
| (d) | Maximum yearly average ambient air temperature | 30 ⁰ C |
| (e) | Maximum humidity | 100% |
| (f) | Altitude above M.S.L. | Up to 1000M |
| (g) | Average No. of thunder storm days per annum | 50 |
| (h) | Average No. of dust storm days per annum | Occasional |
| (i) | Average No. of rainy days / annum | 90 |
| (j) | Average Annual Rain fall | 925mm |
| (k) | Normal tropical monsoon period | 4 months |
| (l) | Maximum wind pressure | 150 kg/Sq.M. |

25.2 Due consideration will be given to any special devices or attachments put forward by the Bidder which are calculated to enhance the general utility and the safe and efficient operation of the equipment / materials.

26. FORMAT AND SIGNING OF BID

26.1 The Bidder shall prepare one original and one copy of the documents comprising the bid as described in Clause 13 of these Instructions to Bidders, bound with the volume containing the Form of Bid, and clearly marked "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail. The person or persons signing the bid will initial all pages of the bid, except for printed literature.

26.2 The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. All

pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.

- 26.3 The Bid shall contain no alterations or additions, except those to comply with instructions, issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

D. SUBMISSION OF BIDS

27. SUBMISSION, SEALING AND MARKING OF BIDS

27.1 The Bidders are required to submit their bids in two parts as under:

- (i) Part-I : Bid Security, Technical Bid & Qualification Requirements
Technical Bid shall contain full technical particulars and commercial terms and conditions but without prices. This should not contain any cost information whatsoever.
Part-II : Price Bid – containing Prices (**shall be on-line only**)

** It is requested to quote the price i.e. total of Table **in on-line only** duly signed by the authorized representative as per the proforma mentioned in Section V.

- (ii) The Part-I of the tender should be furnished in a sealed cover super scribing tender enquiry number, technical bid, name of the bidder and date of tender opening.
- (iii) Part-I of the bid will be opened on the due date of tender opening. The firms whose Bid Security and Transaction Fee is not received as specified in the tender document, the price bids will not be opened and their bids will be rejected summarily.
- (iv) The price bids of only those bidders whose technical bids, on examination, are determined to be technically and commercially acceptable and meeting the specified Qualification Criteria will be opened at a later date.

SEALING AND MARKING OF BIDS

27.2 The Bidder shall seal the Technical bid in envelope.

27.3 The envelope shall be addressed to the Purchaser

**Chief Engineer (Projects),
4th floor, Corporate office, TGSPDCL
Mint Compound, Hyderabad 500063**

The sealed cover as well as the outer envelope should be super scribed as follows:

- (a) Bid Enquiry No.
(b) Due date and time for online submission.
(c) Date and time for online opening
(d) Payment of Bid Security
(i) If paid, give details: D.D. No./BG No. Date:
(ii) If not paid or exempted, give details.
(e) Whether 180 days validity offered.....YES / NO
(f) Whether the quotation is made accepting Payment clause YES/NO
(g) Whether the delivery is as per delivery schedule indicated.... YES/NO
(h) Whether the samples (if specified) has been enclosed/ sent...YES/NO
(i) Whether the bid is quoted in two parts.... (YES/NO)
- 27.4 Bids not super scribed as above are liable to be rejected.
- 27.5 The Bidder shall invariably complete the Bid in full. Details to be furnished by the bidder and Schedule of Prices (On-line only) attached to the specification and enclose the same to the bid without fail.

- 27.6 The bids shall be in bound volumes (With the documents in the volume not detachable). All pages of the bid except in-amended printed literature shall be initialed by the person/persons signing the bid. The page number shall be referred in Index. All pages including literature, type test reports of the bid shall be numbered and the page numbers shall be continuous. Soft copy of the technical and designs with drawings shall be given in Pen drive/ CD also. Summary sheet in the given format on the top of the bid duly signed and sealed by the bidder.
- 27.7 The time of actual receipt in the office only will count for the acceptance of the bid and either the date of bid, date stamp of post office or date stamp of any other office will not count. The TGSPDCL will not be responsible for any postal or any other transit delays.
- 27.8 Telegraphic quotations will not be entertained under any circumstances. Clarification, amplifications, and/ or any other correspondence from the Bidder subsequent to the opening of bid will not be entertained. The Bidders are advised to ensure that their bids are sent in complete shape at the first instance itself.
- 27.9 The inner envelope shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".
- 27.10 If the outer envelope is not sealed and marked as required above, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.

28. DEADLINE FOR SUBMISSION OF THE BIDS

- 28.1 Bids together with modifications if any, or other withdrawals must be received by the Purchaser not later than the deadline for submission of bids specified in the Salient features of the Bid.
- 28.2 The employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidder previously subject to the original deadline will then be subject to the new deadline.

29. LATE BIDS

- 29.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser will be rejected and returned unopened to the Bidder.

MODIFICATION AND WITHDRAWAL OF BIDS

- 29.2 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Purchaser prior to the deadline prescribed for submission of bids.
- 29.3 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked and delivered in accordance with clauses 26 & 27, with the outer and inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.
- 29.4 No bid may be modified after the deadline for submission of Bids.
- 29.5 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 22.1 above or

as extended pursuant to Clause 22.3 may result in the forfeiture of the Bid security pursuant to Clause 21.

E. OPENING AND EVALUATING OF BIDS

30. BID OPENING

- 30.1 The Employer will open all the Technical Bids received in time (except those received late), in the presence of the Bidders or their authorized representatives who choose to attend at the time on the date and the place specified. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Technical Bids will be opened at the appointed time and location on the next working day.
- 30.2 **Evaluation of the Technical bid:** As per the documents submitted online in technical stage.
- 30.3 Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 29 shall not be opened.
- 30.4 The Bidders' names, bid modifications or withdrawals, discounts and the presence or absence of requisite Bid Security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. Bids that are not opened at bid opening will not be considered further for evaluation, irrespective of the circumstances.

31. CLARIFICATION OF BIDS

- 31.1 To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of unit rates. The request for clarification and the responses shall be in writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Sub-Clause 32.2.
- 31.2 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bid.

32. PRELIMINARY EXAMINATION

32.1 EXAMINATION OF BIDS & DETERMINATION OF RESPONSIVENESS

- (a) Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents.
- (b) A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract, or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

- (c) If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-confirming deviation or reservation.

Note : Payment terms, Delivery period, Performance Bank Guarantee, Taxes and Duties” should be in line with the terms and conditions of the specification. If any bidder does not meet any one of the conditions, such tender will not be considered. Please note that the conditional offers are also not considered. Hence the bidder shall submit the tender in line with the terms and conditions of the specification.

32.2 CORRECTION OF ERRORS

Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the employer as follows:

- (a) Where there is a discrepancy between the rates in figures and in words, the rate in words will govern, and
- (b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity the unit rate as quoted will govern.
- (c) Any discrepancy found to soft copy and hard copy, the soft copy will govern.

The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 21.9(a(ii)).

33. EVALUATION AND COMPARISON OF BIDS

33.1 The Purchaser will evaluate and compare the bids, which have been determined to be Substantially responsive.

33.2 The Purchaser's evaluation of a bid will take into consideration one or more of the following factors

All the bids, which are opened, read out and considered for evaluation will be checked for qualification requirements in respect of technical and commercial aspects. Such of the bids, which do not meet the qualification requirements, will not be evaluated further. The bid is to be checked for its conformity to the technical specification. If it does not meet the technical specification, the Bid will not be evaluated further. However, if in the opinion of the purchaser the bidder has offered equipment / material better than the technical specification the same may be considered. The bid may be rejected for the following reasons:

1. Not in the prescribed form
 2. Insufficient bid security or bid not accompanied by the required bid security or proof of bid security exemption.
 3. Bids not properly signed
 4. The bidder is a vendor who is banned from further business transactions and the period of ban is still in force.
 5. Bid received after the due date and time
 6. The bid is through telegram, e-mail or fax
- Further, the purchaser may enquire from the bidder in writing for any clarification of the bid. The response of the bidder will also be in writing. However no change in the prices or substance of the bid will be sought, offered or permitted.
 - Bids will be examined for completeness and for any computational errors.
 - Arithmetical errors will be rectified on the following basis.

- Where there is a discrepancy between the unit price and total price, the unit price will prevail and the total price will be corrected accordingly.
- Where there is a discrepancy between words and figures, the amount in words will prevail.
- Failure on the part of the bidder to agree to the above corrections will result in rejection of his offer and forfeiture of his bid security.
- It will be ensured that the required sureties have been furnished and that the documents have been properly signed.
- The purchaser's evaluation of a bid will take into consideration one or more of the following factors
 - (a) Delivery schedule offered in the bid;
 - (b) Deviations in payment schedule from that specified in the general terms and conditions of the contract and technical deviations.
 - (c) The cost of components, mandatory spare parts, and service;
 - (d) The projected operating and maintenance costs during the life of the equipment;
 - (e) The performance and productivity of the equipment offered;
 - (f) Other specific criteria indicated in the Bidding documents.

In addition the Purchaser's evaluation of a bid will take into account the net landed cost of the material at the final destination. For the purpose of evaluation net landed cost is arrived at by adding all elements of the basic price, allowable discount & any other levies, packing & forwarding, freight charges, insurance (transit & storage) as quoted by the bidder, interest on advance if any, erection, servicing and other charges inclusive of GST as called for.

The following criteria may be adopted for taxes and duties for evaluation

- a. **It is the responsibility of the bidder to quote all taxes and duties correctly without leaving any column unfilled. Where taxes and duties are not applicable the bidder should enter "NA". If no duty / tax are leviable the same may be entered as "NIL". If any column is left blank or filled vaguely like "as applicable", the same will be loaded with the maximum of the other eligible Bids.**
- b. **Where there is an exemption of GST, the documentary evidence to that effect will be enclosed by the supplier.**
- c. The bidders for supply and works shall invariably possess the GSTIN number and PAN Number for the bids above Rs. 5.00 lakhs and this must be verified before entering into contract.
- Prior to detailed evaluation, the responsiveness of each bid will be determined. A substantially responsive bid is one that conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment term, price schedule, taxes and duties will be deemed to be the critical provisions and deviations in any one of these items will be deemed to be a material deviation.

The purchaser may waive any minor informality, non-conformity or irregularity in the bid which does not constitute a material deviation, provided such waiver does not affect the relative ranking of any bidder.

- 33.3 (a) The Purchaser's evaluation of a bid will take into account the Net Landed Cost of the Material at destination locations/stores inclusive of all taxes and duties and

inclusive of GST quoted by the Bidder. It is the responsibility of the bidder to quote all Taxes and Duties correctly without leaving any column unfilled. Where not applicable the column may be filled as "NA". If no duty / tax are leviable the same may be filled as "NIL". If any column is left blank the same is loaded with maximum of other eligible Bids.

(b) Any increase in statutory levies shall be to the account of bidder. However any decrease in statutory levies shall be taken in to consideration to the advantage of the Employer (TGSPDCL) only.

- 33.4 A substantially responsive bid is one, which conforms to all the terms and conditions of the bidding documents without material deviations. For this purpose superscription, qualification requirement, bid security, validity, delivery, payment term, price schedule (**in online only**), submission of Types test certificates , taxes and duties will be deemed to the critical provisions and deviations in any one of these things will be deemed to be a material deviation.

34. CONTACTING THE PURCHASER

Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

F. AWARD OF CONTRACT

35. AWARD CRITERIA

- 35.1 Subject to Clause 32.1 & 37, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be eligible and qualified in accordance with the provisions of Clause 6.
- 35.2 The Purchaser will award the contract to the successful Bidder / Bidders whose bid has/ have been determined to be substantially responsive.
- 35.3 However it is not binding on TGSPDCL to accept the lowest or any other Bid. It reserves the right to place orders on different Bidders.

36. EMPLOYER'S RIGHT TO VARY QUANTITIES AT TIME OF AWARD

- 36.1 The Purchaser reserves the right at the time of contract award to increase or decrease up to 20% the quantity of Materials / equipment and services originally specified in the Schedule of Materials without any change in unit price or other terms and conditions.
- 36.2 The purchaser reserves the right to vary the ordered quantity +/- 20% during the execution of the contract.

37. EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected bidder or bidders.

38. NOTIFICATION OF AWARD

- 38.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the Successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
- 38.2 The notification of award will constitute the formation of the Contract.
- 38.3 Upon the successful Bidder's furnishing of the performance security, the Purchaser enters into contract with successful Bidder / Bidders. The Purchaser will notify each unsuccessful Bidder and will discharge its Bid Security.

39. SIGNING OF CONTRACT

The Purchaser notifies the successful Bidder that its bid has been accepted. Within 30 (thirty days) of receipt of notification of award of Contract, the successful Bidder will sign and date the contract. Failure to comply with this stipulation will entail cancellation of the contract besides forfeiture of the bid security.

40. PERFORMANCE SECURITY

- 40.1 Within 21 days of receipt of the Letter of Intent/Letter of Award, the Successful Bidder shall deliver to the employer a Performance Security in any of the forms given below for an amount equivalent to 10% of the Contract price for proper fulfillment of the contract, which will include the Installation, Operation and Maintenance, warranty period and completion of performance obligations. The Performance Security will cover 6months beyond the Contract Period or extended thereafter. However, in case of delay in Installation Milestone, the validity of the initial Performance Security shall be extended by the period of such delay.
- 40.2 The proceeds of the performance security will be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 40.3 The performance security will be a bank guarantee issued by a nationalized bank acceptable to the Employer, in the form provided in the bidding documents.
 - 40.3.1 Any payments shall be made to the Successful Bidder only after receipt of the Performance Security by Utility.
 - 40.3.2 Upon Termination of the Contract due to Successful Bidder Event of default, the Performance Security shall be forfeited by Utility.
- 40.4 The performance security will be discharged by the Purchaser and returned to the supplier not later than sixty (60) days after the validity period.
- 40.5 Failure of the successful Bidder to comply with the above requirement will entail cancellation of the award and forfeiture of the Bid Security and the balance to make up the performance security deposit will be deducted from pending payments if any

due to the tenderer form TGSPDCL on other orders in addition the company will also become liable for being black listed by TGSPDCL.

41. CORRUPT OR FRAUDULENT PRACTICES

41.1 TGSPDCL expects that Bidders/Suppliers/Contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the TGSPDCL.

Defines, for the purposes of this provision, the terms set forth as follows:

- i. "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the work awarding process or in contract execution, and
- ii. "Fraudulent Practice" means a misrepresentation of facts in order to influence work awarding process or the execution of a contract to the detriment of the Employer and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

Will reject a proposal for award if it is determined that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

Will declare a firm ineligible, either indefinitely or for a stated period of time, if Employer at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing TGSPDCL contract.

41.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 23.2 and sub clause 55 of the General Conditions of Contract.

42. USE OF CONTRACT DOCUMENTS AND INFORMATION

42.1 The Supplier will not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, of any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person will be made in confidence and will extend only so far as may be necessary for purposes of such performance.

42.2 The Supplier will not, without the Purchaser's prior written consent, make use of any document or information except for purposes of performing the Contract.

42.3 Any document, other than the Contract itself, will remain the property of the Purchaser and will be returned (in all copies) to the Purchaser on completion of the supplier's performance under the Contract if so required by the Purchaser.

42.4 The Supplier will permit the Purchaser or his authorized representative to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Supplier.

43. PATENT RIGHTS

The Supplier will indemnify the Purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Materials/ equipment or any part thereof.

44. PAYMENT TERMS (ON “PRO-RATA” BASIS)

The Following shall be ascertained before release of payment:

1. Supply of total materials in stores of TGSPDCL.
2. Submission performance Bank Guarantee (10% of Award value)
3. Submission of agreed project implementation schedule.

Progressive / Mile stone based payment for project will be regulated as under, however each mile stone to be agreed based on the proposal and TGSPDCL requirement, if any.

| S.No | Payment Milestones | % Payment against each item |
|------|--|-----------------------------|
| 1 | SCADA Equipment | |
| a | Delivery, Installation of all materials mentioned as per bill of quantities | 60 |
| 2 | Integration to SCADA | 30 |
| 3 | After Successful completion of training and After successful completion of end-to-end connectivity | 10 |

Charges will be paid as per payment terms after due certification by the SE/SCADA/TGSPDCL and counter signed by DE/SCADA after analyzing the achieved milestone and communication percentage.

The CGM (Finance) at TGSPDCL Corporate office shall arrange payment of bills.

B) Penalty Clause:

I) The agency is responsible for attending, rectification/replacement of defective /burnt SCADA Equipment even in the event of high voltages if any within 24 hrs. In case of major failure such as total failure of Server, the agency has to rectify the same within 12 hours.

II) If the agency fails to deliver any or all of the goods of perform the related services within the period specified in the contract, the purchaser (TGSPDCL) may without prejudice to all its other remedies under the contract, deduct from the contract price, as liquidated damages, as sum equivalent to 0.5% of the value of the goods or related service, supplied beyond stipulated delivery schedule for each week or part thereof of delay until actual delivery or performance subject to a maximum of 5% value of such goods and services.

III) In case of a delay in the supply and integration of all prescribed materials within the scheduled time, TGSPDCL, without prejudice to its rights under the law, including the right to cancel the contract, forfeit the bank guarantee, and/or recover damages for breach of contract, reserves the right to take appropriate action

C) Contract Termination:

I) The responsibility of the End to End communication & data availability shall lie wholly with the Agency. If the End to End communication & data availability is below the prescribed level of 85% for a continuous period of two months, the agreement stands terminated automatically. Responsibility wholly lies with the bidder to communicate and coordinate with Existing system integrator (SIA) for seamless integration of all SS without hampering timelines specified in schedule.

II) If the goods and related services supplied do not meet the minimum specifications as per the contract or the goods that under perform or not compatible to the requirements and the same are not replaced/modified by the supplier to meet the requirements within 07 days of being informed by the utility, the utility (TGSPDCL) shall be free to impose any penalty as deemed fit. In addition, the utility shall reserve the right to terminate the contract and recover liquidated damages by forfeiting the performance guarantee submitted.

II. PAYMENT PROCEDURE

- (a) The payment shall be made in Indian Rupees (INR) only.
- (b) The payments shall be made on or after thirty (30) days of receipt of contractor's invoice complete in all respects and supported by the requisite documents and fulfillment of stipulated conditions, if any. All the payment shall be released to the contractor through the Banks by crediting to his account.
- (c) If the supplier has received any over payments by mistake or if any amounts are due to the TGSPDCL due to any other reason, when it is not possible to recover such amounts under the contract resulting out of this specification, the TGSPDCL reserves the right to collect the same from any other amount and / or Bank Guarantees given by the company due to or with the TGSPDCL.

45. SETTLEMENT OF DISPUTES

If any dispute or difference of any kind whatsoever will arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties will make every effort to resolve amicably such dispute or difference by mutual consultation.

If, after thirty (30) days the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

Any dispute of difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause will be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Materials / equipment under the Contract.

Arbitration proceedings will be conducted in accordance with the following rules of procedure. The dispute resolution mechanism will be as follows:

- (a) In the case of a dispute or difference arising between the Purchaser and a

Supplier relating to any matter arising out of or connected with this agreement, such dispute or difference will be settled in accordance with the Arbitration and Conciliation Act. 1996. The Arbitral Tribunal will consist of three Arbitrators one each to be appointed by the Purchaser and the supplier the Third Arbitrator will be chosen by the two Arbitrators so appointed by the parties and will act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator will be appointed by The Institution of Engineers (India).

- (b) If one of the Parties fails to appoint its Arbitrator in pursuance of Sub-Clause (a) within 30 days after receipt of the notice of the appointment of its Arbitrator by The Institution of Engineers (India), will appoint the Arbitrator. A certified copy of the order of the Institution of Engineers (India), making such an appointment will be furnished to each to the parties.
- (c) Arbitration Proceedings will be held at Purchaser's Headquarters, and the language of the Arbitration Proceedings and that of all documents and communication between the parties will be English.
- (d) The decision of the majority of Arbitrators will be final and binding upon both parties. The cost and expenses of Arbitration Proceedings will be paid as determined by the Arbitral Tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc., of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf will be borne by each party itself.
- (e) Where the value of the Contract is Rs. One Crore and below, the disputes or differences arising will be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely The Institution of Engineers (India).

Notwithstanding any reference to arbitration herein,

- (a) The parties will continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) The Purchaser will pay the Supplier any monies due the Supplier.

The arbitration if any in the disputes arising out of bidding process or in the execution of the contract, payments, penalties etc. shall be conducted in accordance with the arbitration procedure as laid down in Indian arbitration and conciliation Act. 1996. All disputes are subject to courts situated at HYDERABAD only.

SECTION - IV

TECHNICAL SPECIFICATIONS

Scope of work

The TGSPDCL invites bids for Routers and Modems for setting up connectivity for SCADA Control Center, SCADA integrated Substations and all DMS Equipments installed in the field to the existing SCADA system using IEC 60870-5-104 protocol of TGSPDCL SCADA, project. The equipment provider in coordination with utility as per the requirement to be given in this detailed RFP/Bid shall carry out field survey, design, engineering, supply, install, configure and test the FO link at CC/DC for SCADA control center & CPE devices at all locations.

The tender includes:

- Field Routers: 242nos dual SIM, dual-active, high-speed 4G LTE cellular routers deployed at remote sites with specified port and antenna configurations in the specifications.
- Field MODEMs: 1608nos dual SIM, dual-active, high-speed 4G LTE cellular MODEMs deployed at remote sites with specified port and antenna configurations in the specifications.
- Control Center PE Routers: Multiple pairs of redundant PE routers to aggregate traffic from four service providers' MPLS hubs and route it to redundant SCADA servers.
- Configuration: Initial setup, configuration, and testing of all routers & MODEMs to ensure compatibility with IEC 104 and MPLS infrastructure for 4000 locations.
- Documentation and Training: Detailed configuration guides, network diagrams, and training for the operational team.
- Support and Maintenance: Minimum 5-year warranty and support, including firmware updates and technical assistance.
- The selected equipment provider shall work in close coordination with TGSPDCL to execute the scope of work as detailed in this Request for Proposal (RFP). The responsibilities include but are not limited to:
- Comprehensive field survey and site assessment for all Control Centers (CC/DC), substations, and field devices.
- Design and engineering of the communication solution to meet SCADA operational requirements.
- Supply, installation, and commissioning of edge communication equipment including industrial-grade Routers and Modems.
- Configuration and integration of all equipment to ensure seamless data exchange with the existing SCADA backend over IEC 60870-5-104 protocol.
- Deployment of Customer Premises Equipment (CPE) at all designated locations.
- Establishment of secure, scalable, and redundant communication links between field devices and SCADA Control Centers.
- Testing, validation, and performance certification of the communication infrastructure post-deployment.

- Comprehensive support services for all supplied and commissioned equipment, including firmware updates, health monitoring, and fault resolution for the contract period.
- The proposed solution must ensure high availability, low latency, cyber secure, and protocol-compliant connectivity to support mission-critical SCADA operations and Smart Grid functionality in real-time.

SITE VISIT

The Bidder is solely responsible for conducting a site visit, at their own risk and cost, to assess the existing site conditions, network environment, and surrounding infrastructure relevant to the SCADA-DMS project. It is strongly recommended that the Bidder performs a thorough field assessment to gather all necessary technical, logistical, and operational data required for the preparation of a responsive and comprehensive bid, as well as for successful execution of the contract. All costs associated with the site visit shall be borne entirely by the Bidder.

PROJECT EXECUTION

Training for Employees:

The Bidder shall organize training to the core Group of implementation team of the TGSPDCL as well as end user training. Representatives from the successful bidder, Purchaser's implementation project and change management teams will be involved throughout in the development of training strategy, training material design and development, standards and training delivery to ensure that change management issues are incorporated, and that training strategies and materials are aligned to the requirements of the project and as business-specific as possible

Integration Timeline Compliance:

Failure to integrate all 33/11kV substations and DMS equipment within the stipulated schedule shall constitute a breach of contract. TGSPDCL reserves the right to impose penalties, forfeit performance security, recover damages, or terminate the contract as deemed appropriate.

TECHNICAL SPECIFICATIONS

- **Specifications for Field Routers**

Type: Industrial-grade cellular router with dual SIM, dual-active capability and high-speed 4G LTE support.

- Device Class: Cellular CPE
- Application: Communication between SCADA/DMS Control Centre and RTU at Substation/ RVDUs
- Functionality: The offered MPLS-VPN Cellular CPE (Modem-cum-Router) shall be capable to connect the RTU installed in the field to the existing SCADA system using IEC 60870-5-104 without using any proprietary protocol converters. The device shall be capable to establish MPLS-VPN connection without using any proprietary scripts in the RTU at Substation.
- Network Coverage: 4G, with 3G and 2G fallback With the support for all bands used in India by ISPs

- **Hardware Requirements:**

- **Cellular Connectivity:**

High-speed 4G LTE (Category 6 or higher, minimum download speed of 300 Mbps, upload speed of 50 Mbps).

Fallback to 3G/2G for compatibility with legacy networks.

Dual SIM slots, each with independent high-speed 4G LTE modems to support simultaneous active connections to two different service providers (for load balancing or failover).

Four antennas per router (two per modem) to support 4x4 MIMO for maximum signal reliability and throughput.

Multiple 4G LTE for all bands used in India by ISPs (e.g., B1, B3, B7, B20, B28) to ensure compatibility with all four service providers.

Support for SMS feature on 13 digit M2M MPLS-VPN SIMs

Complies with European (EU) or Global standards

Optional: 5G readiness (backward-compatible with 4G LTE).

- **Interfaces:**

Minimum three fast Ethernet Ports:

1 WAN port (10/100/1000 Mbps): Dedicated WAN port with MPLS-VPN Support. Supports fast failover between sources (Dual SIM/WAN) for connectivity to external networks or devices.

2 LAN ports (10/100/1000 Mbps):

1 LAN port for local connection to SCADA devices (e.g., RTUs).

1 LAN port for laptop connection for firmware upgrades, configuration, or diagnostics without interrupting the MPLS-VPN connection to SCADA/DMS Control Centre.

2RS232 Ports (1No on each modem interface): Without interrupting the MPLS-VPN connection with SCADA system.

The operations on these ports should not affect the MPLS-VPN connection to the SCADA/DMS Control Centre.

This port is to be utilised for sending SMS alerts to the mobile no. of authorised personnel of DISCOM.

The SMS alert shall be sent from the FRTU/RTU

The SMS alert feature shall work even in the absence of MPLS-VPN data connection to the Control Centre.1 USB port for additional configuration, diagnostics, or external modem support.

1 USB port: Reserved for future development

2 SIM Slots: 2 NosExternal SIM slot (No need to open device) With MPLS-VPN data and SMS facility.

- **Processing and Memory:**

Minimum 1 GHz dual-core processor, 1 GB RAM, and 512 MB flash storage to handle high-speed 4G LTE traffic and encryption.

Linux Operating System

- **Power Supply:**

12Vdc / 24Vdc & Adapter for 230Vac to 12Vdc

The device should not consumer morethan 6W

- **Environmental Specifications:**

Operating temperature: -40°C to +70°C, IP30 or higher, DIN-rail or wall-mountable.

- **Antenna:**Four external antenna connectors (SMA or equivalent) for two antennas per 4G LTE modem.Support for 4x4 MIMO with high-gain, multi-band 4G LTE antennas.

- **Certifications:** CE, FCC, UL, IEC 61850-3, RoHS.

LEDs: 9 LEDs

1 - Power

2,3 - GSM Signal for each Cellular Engine

4,5 - Registration for each Cellular Engine

6,7 - Cellular Activity for each Cellular Engine

8,9 - user configurable

- **Functional Requirements :**

- **Dual SIM Operation:**

Simultaneous active connections on both SIMs (load balancing or primary/backup) over 4G LTEwith 3G and 2G fallback.

Multiple sources of WAN network – WAN via Ethernet WAN, Cellular1 & Cellular2Failover between sources of WANSupport of fast failover.

Automatic failover (<5 seconds) based on signal strength (RSRP < -100 dBm), latency, or packet loss.

True Dual SIM – with 2 Cellular engines for Active – Active connection

Support for Carrier Aggregation and 4x4 MIMO.

Load Balancing and WAN affinity – Ability to lock a LAN connected device to a source of WAN

- **Routing Protocols:**

Static routing, OSPF, and BGP for MPLS integration.

Unique IP addresses per SIM (e.g., 10.10.0.0/16 for SIM1, 10.20.0.0/16 for SIM2).

Port blocking, port access and port forwarding

The Router should be capable for communicating with multiple protocol RTUs in Transparent Mode IEC 104 Slave mode Multi Master support

- **Routing Support:**

MPLS-VPN, L2TP and PPTP

PPP, PPPoE, TCP, UDP, DHCP, DHCPv6

DNS, Dynamic DNS

NTP Client

Static IPv4 and IPv6 routes

Network Diagnostic etc.

- **VPN Support:**

IPsec VPN with IKEV1, IKEv2, AES-256, SHA-256 for secure IEC 104 traffic.

GRE tunneling support if required.

DHCP, Static IP IPV4 and IPV6 support

Configurable APN support

Configurable Dial-up number support

- **IEC 104 Protocol Support:**

Transport IEC 104 over TCP/IP (port 2404) via WAN and LAN ports.

Support legacy protocols (e.g., Modbus RTU) via RS-232/RS-485 with conversion to IEC 104.

QoS to prioritize IEC 104 traffic (<100 ms latency).

- **Management and Monitoring:**

Web-based GUI, CLI, SNMP v3, remote management via HTTPS.

Local management via dedicated LAN port for laptop upgrades.

Logging of 4G signal strength, connection status, and failover events.

- **Response Time:**

Bootup time taken to be in Run mode after switching ON the power must be less than 30 – 45 Sec

MPLS-VPN Data Connection establishment and data update time from RTU/FRTU to SCADA/DMS Control Centre (Time taken to for data update after switching ON the power) must be less than 45 – 60 Sec

Time taken to changeover between networks of SIM1 and SIM2(if passive failure mode is configured) must be less than 5 – 10 Sec (The changeover should not cause Offline state of the RTU/FRTU on SCADA/DMS.)

- **Security:**

Firewall support:

Stateful packet inspection, VLANs, MAC filtering

Support for IPv4 and IPv6.

Port Forward

NAT rules

Traffic Rules and Custom rules

Traffic shaping / filtering in firewall

SYN-flood protection

Secure VPN client – Open VPN, IPsec

IPsec should support IKEV1 and IKEv2 Normal Mode as well as Aggressive mode

Selectable Encryption schemes

Support Certificate uploads

Ability to lock the Router to a SCADA IP

Ability to lock the Router to limited connected FTRUs

Secure RS-232/RS-485 communication.

- **Reliability:** Intelligent Network Watchdog to monitor Data connection stability. Hardware Watchdog.

- **Dimensions and Mounting:** Suitable to mount in the available free space on the mounting plate inside the panel of RTU/FRTU

- **Auto Reconnect/ Fault recovery:** Device shall recover from faults automatically and reconnect to Control Centre network without manual intervention or resetting the power supply.

- **Redundancy:** VRRP for router-level redundancy.

- The device can be used as modem/router/switch

- **Scalability:**

Support at least 100 simultaneous IEC 104 sessions per router.

Firmware upgradable for future enhancements.

- **Performance:**
 - Minimum 300 Mbps throughput per SIM over 4G LTE.
 - Low-latency IEC 104 transmission (<100 ms).
- **Configuration Requirements :**
 - IP Addressing:
 - Assign unique IP ranges (e.g., 10.10.0.1–10.10.15.255 for SIM1, 10.20.0.1–10.20.15.255 for SIM2).
 - LAN ports: 192.168.2.x for SCADA devices, 192.168.3.x for laptop upgrades.
 - IPsec VPN:
 - Configure IPsec tunnels to PE routers.
- **Test Certificates:**
 - IS 13252 (Part 1):2010 In accordance with IEC 60950-1:2005
 - Speed throughput Test report for all the sources & ports
 - Dual SIM failover and load balancing test report
 - WAN and Cellular Backup test report
 - Signal strength and cellular coverage test report
 - Latency and Jitter test report
 - Multi Device performance test report
 - Security and VPN test report
 - Power and thermal performance test report
 - Setup and management test report
 - Port and connectivity test report
 - Specifications for Field MODEMS
- Type: Industrial-grade cellular MODEM with dual SIM, dual-active capability and high-speed 4G LTE support.
- Device Class: Cellular CPE
- Application: Communication between SCADA/DMS Control Centre and FRTU at DMS equipment
- Functionality: The offered MPLS-VPN Cellular CPE (MODEM) shall be capable to connect the FRTU installed in the field to the existing SCADA system using IEC 60870-5-104 without using any proprietary protocol converters. The device shall be capable to establish MPLS-VPN connection without using any proprietary scripts in the FRTU.
- Network Coverage: 4G, with 3G and 2G fallback With the support for all bands used in India by ISPs

- **Hardware Requirements:**

Cellular Connectivity:

High-speed 4G LTE (Category 6 or higher, minimum download speed of 300 Mbps, upload speed of 50 Mbps).

Fallback to 3G/2G for compatibility with legacy networks.

Dual SIM slots, each with independent high-speed 4G LTE modems to support simultaneous active connections to two different service providers (for load balancing or failover).

Four antennas per router (two per modem) to support 4x4 MIMO for maximum signal reliability and throughput.

Multiple 4G LTE for all bands used in India by ISPs (e.g., B1, B3, B7, B20, B28) to ensure compatibility with all four service providers.

Support for SMS feature on 13 digit M2M MPLS-VPN SIMs

Complies with European (EU) or Global standards

Optional: 5G readiness (backward-compatible with 4G LTE).

- **Interfaces:**

Minimum three fast Ethernet Ports:

1 WAN port (10/100/1000 Mbps): Dedicated WAN port with MPLS-VPN Support. Supports fast failover between sources (Dual SIM/WAN) for connectivity to external networks or devices.

2 LAN ports (10/100/1000 Mbps):

1 LAN port for local connection to SCADA devices (e.g., RTUs).

1 LAN port for laptop connection for firmware upgrades, configuration, or diagnostics without interrupting the MPLS-VPN connection to SCADA/DMS Control Centre.

2RS232 Ports (1No on each modem interface): Without interrupting the MPLS-VPN connection with SCADA system.

The operations on these ports should not affect the MPLS-VPN connection to the SCADA/DMS Control Centre.

This port is to be utilised for sending SMS alerts to the mobile no. of authorised personnel of DISCOM.

The SMS alert shall be sent from the FRTU/RTU

The SMS alert feature shall work even in the absence of MPLS-VPN data connection to the Control Centre.1 USB port for additional configuration, diagnostics, or external modem support.

1 USB port: Reserved for future development

2 SIM Slots: 2 Nos External SIM slot (No need to open device) With MPLS-VPN data and SMS facility.

- **Processing and Memory:**
 Minimum 1 GHz dual-core processor, 1 GB RAM, and 512 MB flash storage to handle high-speed 4G LTE traffic and encryption.
 Linux Operating System
- **Power Supply:**
 12Vdc / 24Vdc & Adapter for 230Vac to 12Vdc
 The device should not consumer morethan 6W
- **Environmental Specifications:**
 Operating temperature: -40°C to +70°C.
 IP30 or higher.
 DIN-rail or wall-mountable.
- **Antenna:** Four external antenna connectors (SMA or equivalent) for two antennas per 4G LTE modem. Support for 4x4 MIMO with high-gain, multi-band 4G LTE antennas.
- **Certifications:** CE, FCC, UL, IEC 61850-3, RoHS.
- **LEDs:** 9 LEDs
 - 1 - Power
 - 2,3 - GSM Signal for each Cellular Engine
 - 4,5 - Registration for each Cellular Engine
 - 6,7 - Cellular Activity for each Cellular Engine
 - 8,9 - user configurable
- **Functional Requirements :**
 - Dual SIM Operation:
 Simultaneous active connections on both SIMs (load balancing or primary/backup) over 4G LTE with 3G and 2G fallback.
 Multiple sources of WAN network – WAN via Ethernet WAN, Cellular1 & Cellular2
 Failover between sources of WAN Support of fast failover.
 Automatic failover (<5 seconds) based on signal strength (RSRP < -100 dBm), latency, or packet loss.
 True Dual SIM – with 2 Cellular engines for Active – Active connection
 Support for Carrier Aggregation and 4x4 MIMO.
 Load Balancing and WAN affinity – Ability to lock a LAN connected device to a source of WAN
- **Routing Protocols:**
 - Static routing, OSPF, and BGP for MPLS integration.
 - Unique IP addresses per SIM (e.g., 10.10.0.0/16 for SIM1, 10.20.0.0/16 for SIM2).
 - Port blocking, port access and port forwarding

The MODEM should be capable for communicating with multiple protocol FRTUs in Transparent Mode IEC 104 Slave mode Multi Master support

Routing Support:

MPLS-VPN, L2TP and PPTP

PPP, PPPoE, TCP, UDP, DHCP, DHCPv6

DNS, Dynamic DNS

NTP Client

Static IPv4 and IPv6 routes

Network Diagnostic etc.

- **VPN Support:**

IPsec VPN with IKEV1, IKEv2, AES-256, SHA-256 for secure IEC 104 traffic.

GRE tunneling support if required.

DHCP, Static IP IPV4 and IPV6 support

Configurable APN support

Configurable Dial-up number support

- **IEC 104 Protocol Support:**

Transport IEC 104 over TCP/IP (port 2404) via WAN and LAN ports.

Support legacy protocols (e.g., Modbus RTU) via RS-232/RS-485 with conversion to IEC 104.

QoS to prioritize IEC 104 traffic (<100 ms latency).

- **Management and Monitoring:**

Web-based GUI, CLI, SNMP v3, remote management via HTTPS.

Local management via dedicated LAN port for laptop upgrades.

Logging of 4G signal strength, connection status, and failover events.

- **Response Time:**

Bootup time taken to be in Run mode after switching ON the power must be less than 30 – 45 Sec

MPLS-VPN Data Connection establishment and data update time from RTU/FRTU to SCADA/DMS Control Centre (Time taken to for data update after switching ON the power) must be less than 45 – 60 Sec

Time taken to changeover between networks of SIM1 and SIM2(if passive failure mode is configured) must be less than 5 – 10 Sec (The changeover should not cause Offline state of the RTU/FRTU on SCADA/DMS.)

- **Security:**

Firewall support:

Stateful packet inspection, VLANs, MAC filtering

Support for IPv4 and IPv6.

Port Forward

NAT rules

Traffic Rules and Custom rules

Traffic shaping / filtering in firewall

SYN-flood protection

Secure VPN client – Open VPN, IPsec

IPsec should support IKEV1 and IKEv2 Normal Mode as well as Aggressive mode

Selectable Encryption schemes

Support Certificate uploads

Ability to lock the Router to a SCADA IP

Ability to lock the Router to limited connected FTRUs

Secure RS-232/RS-485 communication.

- **Reliability:** Intelligent Network Watchdog to monitor Data connection stability. Hardware Watchdog.
- **Dimensions and Mounting:** Suitable to mount in the available free space on the mounting plate inside the panel of RTU/FRTU
- **Auto Reconnect/ Fault recovery:** Device shall recover from faults automatically and reconnect to Control Centre network without manual intervention or resetting the power supply.
- **Redundancy:** VRRP for MODEM-level redundancy.
- **Scalability:**
 - Support at least 100 simultaneous IEC 104 sessions per router.
 - Firmware upgradable for future enhancements.
- **Performance:**
 - Minimum 300 Mbps throughput per SIM over 4G LTE.
 - Low-latency IEC 104 transmission (<100 ms).
- **Configuration Requirements :**
 - IP Addressing:
 - Assign unique IP ranges (e.g., 10.10.0.1–10.10.15.255 for SIM1, 10.20.0.1–10.20.15.255 for SIM2).
 - LAN ports: 192.168.2.x for SCADA devices, 192.168.3.x for laptop upgrades.
- **IPsec VPN:**
 - Configure IPsec tunnels to PE routers.
- **Test Certificates:**
 - IS 13252 (Part 1):2010 In accordance with IEC 60950-1:2005
 - Speed throughput Test report for all the sources & ports
 - Dual SIM failover and load balancing test report
 - WAN and Cellular Backup test report

Signal strength and cellular coverage test report

Latency and Jitter test report

Multi Device performance test report

Security and VPN test report

Power and thermal performance test report

Setup and management test report

Port and connectivity test report

- Specifications for Control center PE router

Type: High-capacity enterprise-grade MPLS PE router with high availability

- Application: Communication between multi internet service provider (ISP) hub points to SCADA/DMS Control Centre having dual SIM dual active Router/MODEM at field each with two different ISP SIM.

- Functionality: The offered router shall be capable to connect the ISP hub to SCADA servers

- **MPLS VPN Termination:**

Establishes and manages MPLS Virtual Private Networks (VPNs) to segregate SCADA traffic from field routers & MODEMs across four service providers using Virtual Routing and Forwarding (VRF) instances.

Supports secure, isolated connectivity between field routers and the control center.

- Routing and Traffic Aggregation:

Uses Border Gateway Protocol (BGP) to exchange routes with service provider MPLS hubs

Aggregates IEC 60870-5-104 (IEC 104) traffic from field routers and routes it to redundant SCADA servers.

- **IPsec VPN Termination:**

Terminates up to 8000 IPsec VPN tunnels (one or two per field router) to secure IEC 104 traffic over 4G LTE, using AES-256 encryption and SHA-256 authentication.

- **High Availability:**

Implements Hot Standby Router Protocol (HSRP) to ensure continuous operation if one router fails.

- **Quality of Service (QoS):**

Prioritizes IEC 104 traffic (TCP port 2404) with low-latency queuing to ensure <100 ms latency, critical for real-time SCADA operations.

- **Security:**

Enforces firewall policies, VLANs, and VRFs to segregate traffic and protect against unauthorized access.

Supports Intrusion Detection/Prevention Systems (IDS/IPS) for threat monitoring.

- **Scalability:**

Handles traffic from 4000 dual SIM routers/MODEMs, supporting 8000 VPN tunnels and 10,000 routes, with modular design for future expansion.

- **Management and Monitoring:**

Integrates with a Network Management System (NMS) via SNMP v3, CLI, or GUI for monitoring 4000 routers/MODEMs, logging BGP sessions, VPN status, and signal quality.

- In summary, the PE router acts as the central hub for aggregating, securing, and routing SCADA traffic from 4000 field locations to the control center, ensuring redundancy, low latency, and scalability for IEC 104 communications over an MPLS network.

- **Hardware Requirements:**

Interfaces:

Minimum 8nos 8Gigabit Ethernet ports (10/100/1000 Mbps) per router to support dual uplinks to each of the four service provider MPLS hubs

Minimum three fast Ethernet Ports:

Optional: 10GbE ports for future scalability.

Redundant power supplies

- **Processing and Memory:**

Minimum 4 GHz multi-core processor, 16 GB RAM, 4 GB flash storage to handle 8000 VPN tunnels and BGP sessions.

Hardware-accelerated VPN encryption for high-speed 4G LTE traffic.

- **High Availability:**

A pair of redundant PE routers in active/active or active/standby configuration.

Hot-swappable components.

- **Environmental Specifications:**

Operating temperature: 0°C to +50°C, rack-mountable (1U or 2U).

- **Certifications:**

CE, FCC, UL, IEC 61850-3, RoHS.

Functional Requirements:

- **MPLS Support:**

Layer 3 MPLS VPNs with VRFs for traffic segregation.

MPLS label switching and BGP-based route distribution.

- **Routing Protocols:**

BGP, OSPF, static routing.

Support for 8000 routes and BGP sessions for 4000 dual SIM routers/MODEMs.

Multi-homing to four service provider MPLS hubs.

- **VPN Support:**
IPsec VPN termination for 8000 tunnels (4000 routers × 2 SIMs).
GRE, DMVPN, or VPLS support if required.
- **IEC 104 Protocol Support:**
Route IEC 104 traffic (port 2404) to redundant SCADA servers.
QoS to prioritize IEC 104 traffic (<100 ms latency).
- **Redundancy:**
HSRP or VRRP across multiple router pairs.
Handle traffic from dual SIM routers (both SIMs active or primary/backup).
- **Security:**
High-capacity firewall with stateful packet inspection.
VLANs, VRFs, IDS/IPS integration.
- **Management and Monitoring:**
Web-based GUI, CLI, SNMP v3.
Integration with scalable NMS for 4000 routers.
- **Scalability:**
Support for 8000 simultaneous VPN tunnels and 10,000 routes.
Modular design for additional capacity.
- **Configuration Requirements:**
MPLS VPN and VRF:
Configure VRFs for SCADA traffic.
BGP Configuration:
Handle routes for 4000 routers.
IPsec VPN:
Terminate 8000 tunnels.
crypto map SCADA-MAPHSRP for Redundancy
QoS:
Prioritize IEC 104 traffic.
- **Test Certificates:**
Performance Test Report (1 Gbps throughput, <100 ms latency, <0.1% packet loss).
VPN Scalability Test Report (8000 IPsec tunnels).
Routing Scalability Test Report (10,000 routes, stable BGP).
High Availability Test Report (<1s failover, no packet loss).
QoS Test Report (<100 ms latency, <10 ms jitter for IEC 104).
Security Test Report (firewall, IPsec, IDS/IPS, VLAN/VRF isolation).
Environmental and Reliability Test Report (MTBF >100,000 hours).

Management and Monitoring Test Report (NMS integration for 4000 routers).

Interoperability Test Report (field routers, MPLS hubs, IEC 104).

Stress and Load Test Report (4000 routers, 8000 tunnels, 72-hour stability).

Reports must be from independent or vendor-certified labs, include test setups, configurations, and compliance with IEC 61850-3, NERC CIP, and IEC 62443 standards.

Speed throughput Test report for all the sources & ports

Dual SIM failover and load balancing test report

WAN and Cellular Backup test report

Signal strength and cellular coverage test report

Latency and Jitter test report

Multi Device performance test report

Security and VPN test report

Power and thermal performance test report

Setup and management test report

Port and connectivity test report

Typical Router Options (for SCADA grade):

- **Cisco ASR 1006 or 1009-X (supports 10,000+ VPN tunnels).**
- **Juniper MX480 or MX960.**
- **Nokia 7750 Service Router (high-capacity models).**
- **Equivalent routers with 8000+ VPN tunnel support.**
- **Industrial Routers** like Siemens SCALANCE, Moxa, or Hirsch.0mann if rugged environment

SECTION - V

**SCHEDULE OF REQUIREMENTS, BILL OF
QUANTITIES**

Schedule of Requirements (BoQ)

| SL | Description of the Equipment* | Qty Nos | Unit Material Rate incl GST | Unit Labour/ Service Rate incl GST | Total Cost |
|----|---|---------|-----------------------------|------------------------------------|------------|
| | A | B | C | D | E=B*[C+D] |
| 1 | Supply and erection of 4G/LTE support MPLS WAN compliant Router at substations with necessary power supply wiring and Router Racks (including 5% extra) | 242 | | | |
| 2 | Supply and erection of 4G/LTE support MPLS WAN compliant MODEM at DMS equipments with necessary power supply wiring | 1568 | | | |
| 3 | A redundant PE router setup at the Control Center shall be used to connect four different ISP hubs SCADA servers | 2 | | | |
| 4 | Training and Documentation | 1 | | | |

*All the material shall invariably comply with cyber security norms/protocols

Note:

- Bidder shall quote the Total Contract Value and upload the signed copy of the above table (schedule) in pdf format in e-procurement platform at commercial stage only.
- The bidder should maintain minimum 5% extra spares in the TGSPDCL SCADA office to replace the defective in any emergency.

SECTION - VI
QUALIFICATION REQUIREMENTS

QUALIFICATION REQUIREMENTS

The minimum “Bid Qualification Requirements” with respect to experience, capability and other particulars of the Bidder to be considered eligible for participation in the bid for the proposed work are stated in this section. The Bidder shall become eligible to bid on satisfying the following and on production of the required documentary evidences along with the Tender.

1. Financial:

i. Financial Turnover criteria shall be met by the sole bidder. In case of consortium, both lead & Consortium partner shall meet the criteria mentioned as given below:

QF1 For lead or sole bidder :

Bidder participating as a sole bidder: sole bidder shall meet 100% of the minimum annual average turnover (MAAT) of the Bid value in best of 3 years in last 5 years.

Bidder participating as a lead and consortium partner: Individually shall meet at least 30% of MAAT and together 100% of MAAT in best of 3 years within 5 years.

QF2 For consortium partner :

Average Annual financial turnover of best 3 years in the last 5 FYs including last completed financial year , ending 31st March , should be at least 15% of Bid value.

(Proof: Annual Audited Financial Statements for last 5 financial years or 3 best financial years considered for qualification shall be submitted. In case Audited Financial Statements for the previous year is not prepared then certificate from statutory auditor shall be submitted certifying the annual financial turnover).

Both lead bidder and consortium partner together should meet 100% of the estimation cost.

The maximum number of partners allowed are TWO (including lead bidder).

QF3 : The bidder (Sole or lead and consortium both) should have a net worth not less than paid-up equity, in each of the best 3 years in the last 5 FYs incl last completed financial year

(Proof: Annual Audited Financial Statements for last 5 financial years or 3 best financial years shall be submitted. In case Audited Financial Statements for the previous year is not prepared then certificate from statutory auditor shall be submitted certifying the net worth.)

ii. The total turnover shall be Rs. 20 Crores during the last five years certified by CA.

iii. The bidder should meet 100% of the minimum annual average turnover (MAAT) of the Bid value in best of 3 years in last 5 years.

iv. Net Worth for the last three Financial Years should be positive.

v. The bidder (Sole or lead and consortium both) should have a net worth not less than paid-up equity, in each of the best 3 years in the last 5 FYs incl last completed financial year.

(Proof: Annual Audited Financial Statements for last 5 financial years or 3 best financial years shall be submitted. In case Audited Financial Statements for the previous year is not prepared then certificate from statutory auditor shall be submitted certifying the net worth.)

vi. The bidder should have successfully executed at least two Turnkey contract of Supply & Integration of Routers & Modems in SCADA System in last 10 years in INDIA in any power utility/ Government organizations/Limited companies for Electrical distribution system. The Cumulative value of contracts shall not be less than Rs.10 Cr for the total contracts executed during the last 5 years.

vii. Liquid assets and credit facilities of not less than 25% of the bid value.

(credit lines/ letter of credit/ solvency certificates from Banks, etc – usually the equivalent of the estimated cash flow for 3 months in peak work period).

2. Technical:

- i. The following qualifying requirements shall be met by the sole bidder. In case of consortium bidding, Partners shall meet the following criteria together. The maximum no of consortium partners allowed are Two. (QR- Technical)
- ii. The bidder should have supplied minimum 50 nos. 4G/LTE support MPLS WAN complaint Routers, 400Nos 4G/LTE support MPLS WAN complaint MODEMS and necessary accessories in India directly or through System Integrator (SI). The performance certificate for at least 2nos Distribution Networks Systems working satisfactorily should be enclosed with the bid.
- iii. The bidder must provide an exclusive service agent authorization certificate from its OEM which is valid for minimum 7years. Mentioning the OEM will give full support at any situation for the agreement period.
- iii. The bidder must produce necessary certificates along with type tests along with the bid.
- iv. Availability for this work of a Project Manager with Graduation in Electrical/Electronics Engineering with experience in SCADA system implementation.
- v. A technically qualified bidder must arrange for installation and communication between the Supervisory Control and Data Acquisition (SCADA) system, one 33/11kV substation, and one DMS equipment over two different telecom service provider networks. The scope includes bringing the required equipment to the Control Center and substation, installing and wiring the equipment, and ensuring complete system integration and functionality. A minimum of 48 hours of continuous, successful operation is required for PoC certification under POC. Only upon successful integration will they qualify for the opening of the price bid.
- vi. The materials of same Make & Model which were used at the time of POC should be utilized during execution of the whole project.

- vii. The Qualified Bidder should have at least 1No. Stores for storage of spares/materials and the material responsibility solely lies with the bidder until successful commissioning at all substations of TGSPDCL.
- viii. Pre-dispatch testing/Inspection will be done by TGSPDCL Engineers on the quality of materials to be supplied at manufacturing factory.
- 3.
 - a. Any company/ vendor/ supplier/ contractor which is blacklisted/ debarred by any other power utility i.e., DISCOMs/ TRANSCO/ GENCO or Government or any other Government body in India as on date of bid submission and up to the issue of Letter of Intent is not eligible to participate in the tenders.
 - b. The bidders shall have to furnish an undertaking in the prescribed format regarding any relation to the promoters of blacklisted / debarred companies by any utility. Any false information furnished in the declaration while rendering bid, such contract is liable for termination as well as recovery of damages.
- 4. Bidder shall submit documentary evidences such as Order copies, Work completion certificate, Performance Certificates, Copies of contracts and Balance sheets etc., Performance Certificates issued by Head of Purchasing Authority (as per spec).
- 5. All bidders shall provide Forms of bid and Qualification information, a preliminary description of the proposed work, method and schedule, including drawings and charts as necessary.
- 6. The bidder should furnish the information on all past supplies and satisfactory performance in Proforma under Form 2 attested by a Gazetted officer. Copies of Purchase Orders, invoices and other documents in support of the above supplies (for Qualification requirement and Performance requirement) should be enclosed.
- 7. All bidders shall also include the following information and documents with their bids:
 - a. Copies of original documents defining the constitution or legal status, place of registration, and principal place of business, written power of attorney of the signatory of the Bid to commit the Bidder.
 - b. Total monetary value of automation work performed for each of the last five years.
 - c. Experience in works of a similar nature and clients who may be contacted for further information on those contract.
 - d. Qualifications and experience of key site managements and technical personnel proposed for the Contract.
 - e. Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years.
 - f. Evidence of adequacy of working capital for this contract (access to line (s) of credit and availability of other financial resources).
 - g. Authority to seek references from the Bidder's bankers.

- h. Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount.
 - i. The proposed methodology of execution of works backed with their planning and deployment, duly supported with broad calculations and quality assurance procedures proposed to be adopted, justifying their capability of achieving the completion of work as per milestones specified within the stipulated period of completion.
 - j. Financial turnover should be supported by Income Tax return submitted to the Income Tax Department by the contractor.
 - k. Certificate along with supporting Xerox copies of Agreements for the works executed in any one year.
8. The bidder's experience as Subcontractor will not be taken into account.
9. Sub-contractor's experience and resources shall not be taken into account in determining the bidder's compliance with the qualifying criteria.
10. The Bidder shall also furnish the following documents with its Bid.
- a. Details of the workers to be engaged in the agreement of the subject work along with the breakup of wages including EPF and ESI contribution individually, which forms the part of corresponding agreements as per the Employees Provident Fund & Miscellaneous Provisions Act, 1952.
 - b. Firm Registration/Registered Partnership deed in case of firm.
 - c. PAN Card
11. Even though the bidder meets the above qualifying criteria, they are subject to be disqualified if they have...
- a. made misleading or false representations in the forms statements and attachments submitted in proof of qualification requirements and / or
 - b. record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completions, litigation history or financial failure etc. in earlier works executed with TGSPDCL or any other company.
 - c. If they have been executing similar nature of work in TGSPDCL and have been not completing the work as per the work programme i.e. as per the milestones of the agreement.

12. **Proof of Concept (POC) Process:**

The bidder shall be responsible for demonstrating a Proof of Concept (PoC) involving the installation and communication between the Supervisory Control and Data Acquisition (SCADA) system, one 33/11kV substation, and one DMS equipment over two different telecom service provider networks. The scope includes bringing the required equipment to the Control Center and substation, installing and wiring the equipment, and ensuring complete system integration and functionality. A minimum of 48 hours of continuous, successful operation is required for PoC certification.

SECTION VII
SAMPLE FORMS

1. BID FORM

Date.

TO: (Name and Address of Purchaser)
Gentlemen and/or Ladies:

Having examined the Bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver.
(Description of Materials / equipment) in conformity with the said bidding documents for the sum of. (total bid amount in words and in figures) or such other sums as may be ascertained in accordance with the schedule of prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the Materials / equipment in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to. 10% of the Contract Price for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid upto (for the Bid Validity Period) specified in Clause and it will remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, will constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

We certify / confirm that we comply with the eligibility requirements as per clause of the bidding documents.

Dated this.day of.2025

[Signature] *[in the capacity of]*
Duly authorized to sign Bid for and on behalf of

2. QUALIFICATION INFORMATION (FOR SUBMISSION IN TECHNICAL BID)

The information to be filled in by the Bidder in the following pages will be used for purposes of post-qualification as provided for in Clause 6 of the Instructions to Bidders. This information will not be incorporated in the Contract.

For Individual Bidders

- 1.1** Constitution of legal status of Bidder
(Attach Copy)
Place of Registration:
Principal place of business:
Power of Attorney of Signatory of Bid
(Attach Copy)

- 1.2** Total value of Electrical Works performed in the past 7 years (in Rs. Lakhs)

| Year | Amount | Year | Amount |
|---------|--------|---------|--------|
| | | 2021-22 | |
| 2018-19 | | 2022-23 | |
| 2019-20 | | 2023-24 | |
| 2020-21 | | 2024-25 | |

- 1.3.1** Work performed as prime contractor (in the same name) on works of a similar nature over the last 07 years (2018—2019 to 2024-2025).

| Name of the work | Name of Employer | Description of work | Contract No. | Value of contract (Rs. Lakhs) | Date of issue of work order | Stipulated period of completion | Actual date of completion | Remarks Explaining reasons for delay and work completed |
|------------------|------------------|---------------------|--------------|-------------------------------|-----------------------------|---------------------------------|---------------------------|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

- 1.3.2** Quantities of work executed as prime contractor (in the same name and style) in the last seven years (2018-2019 to 2024-2025).

| Year | Name of the work @ | Qty in Nos. | Amount (Rs. lakhs) | Remarks * (Indicate contract ref.) |
|------|--------------------|-------------|--------------------|------------------------------------|
| | | | | |

* Enclose certificate(s) from the Engineer(s) in-Charge.

@ The item of work for which data is requested should tally with that specified in ITB

clause 6

1.4 Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works:

| Description of work | Place & State | Contract No. & Date | Name and Address of Employer | Value of Contract (Rs.Lakhs) | Stipulated period of completion (Rs.lakhs) | Value of works * remaining to be completed | Anticipated date of completion |
|---------------------|---------------|---------------------|------------------------------|------------------------------|--|--|--------------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |

(B) Works for which bids already submitted:

| Description of work | Place & State | Estimated value of works (Rs.lakhs) | Stipulated period of completion | Date when decision is completed | Remarks if any expected |
|---------------------|---------------|-------------------------------------|---------------------------------|---------------------------------|-------------------------|
| (1) | (2) | (3) | (4) | (5) | (6) |

*Enclose certificate (s) from the Engineer (s)-in-Charge.

1.5 The Bidder should list all the equipment essential for carrying out the works in the format given below.

| Item of equipment | Requirement | | Availability proposals | | | Remarks (from whom to be purchased) |
|-------------------|-------------|----------|------------------------|-----------------|----------------|-------------------------------------|
| | No. | Capacity | Owned / leased | Nos. / Capacity | Age/ Condition | |
| | | | | | | |

1.6 Qualifications and experience of key personnel proposed for administration and execution of the contract. Attach biographical data.

| Position | Name | Qualifications | Years of Experience (general) | Years of experience in the proposed position Project Manager |
|----------|------|----------------|-------------------------------|--|
| | | | | |

1.7 Financial reports for the last seven years: balance sheets, profit and loss statements, auditor's report (in case of companies / corporation) etc. List them below and attach copies.

1.8 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents.

- 1.9** Name, address and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.
 - 1.10** Performance certificate for the works executed is to be furnished
 - 1.11** Statement of compliance under the requirements of Clause 6 of the instructions to Bidders.
 - 1.12** Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents.
- 2.** Additional Requirements
- 2.1** Bidders should provide any additional information required to fulfill the requirements of Clause 6 of the Instructions to the Bidders, if applicable.

Signature of the Bidder

3. FORMS OF SECURITIES

Acceptable forms of securities are annexed. Bidders should not complete the Performance forms at this time. Only the successful Bidder will be required to provide Performance Securities in accordance with one of the forms, or in a similar form acceptable to the Employer.

Annex A: Bid Security (Bank Guarantee/Bank Draft)

Annex B: Performance Bank Guarantee

Bid Security Deposit:

- O Along with the Technical Bid, the Vendor shall submit the Bid security deposit of Rs. _____. In case of the non-selected parties, the amount would be returned within 28 days of the end of the bid validity period.

Performance guarantee:

- O The vendor shall submit the performance bank guarantee for 10% of the quoted amount, which will cover 6months beyond the Contract Period or extended thereafter performance obligations including warranty obligations. The performance security will be discharged by the Purchaser and returned to the supplier not later than sixty (60) days after the validity period.

**3 a). BID SECURITY (BANK GUARANTEE)
(FOR SUBMISSION IN TECHNICAL BID)**

To
The Chief Engineer/Projects
TGSPDCL, Mint Compound, Hyderabad.

Whereas _____ (name of Bidder) (here in after called “the Bidder”) has submitted his bid dated _____ (date) for the work of _____ (name of Contract) hereinafter called “the Bid”).

Know all people by these presents that We _____ (name of bank) having our registered office at. (address of bank) (hereinafter called “the Bank”) are bound unto you, in the sum of _____* for which payment well and truly to be made to you, the Bank binds itself, it’s successors and assigns by these presents.

SEALED with the Commission Seal of the said Bank this _____ day of _____ 2024.

The conditions of this obligation are:

- 1) If the Bidder
 - a) withdraws his Bid during the period of bid validity specified by the Bidder on the Bid Form; or
 - b) does not accept the correction of errors in accordance with the Bid Specification,

or

- 2) If the Bidder having been notified of the acceptance of his bid by you during the period of Bid Validity.
 - a. Fails or refuses to execute the Form of Agreement in accordance with the Bid specification, or
 - b. Fails or refuses to furnish the Performance Security, in accordance with the Bid specification, or
 - c. Does not accept the correction of the Bid Price pursuant to Clause 33.

We undertake to pay to you up to the above amount upon receipt of his first written demand, without having to substantiate his demand, provided that in his demand you will note that the amount claimed is due to him, owing to the occurrence of one or both of the two conditions specifying the occurred condition or conditions.

This guarantee will remain in force up to and including _____ (the date 180 days later than Tender opening) with an additional claim period of 45 days i.e. up to _____ (claim period date), and any demand in respect thereof should reach the Bank not later than the above claim period date.

Date _____

Signature of the Bank _____
Seal _____

(Signature, name and address)

* The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees.

NOTE : This will be executed on a Rs.100/- non-judicial stamp paper issued by any **Nationalized/ Scheduled Bank.**

3 b). PERFORMANCE BANK GUARANTEE

To
The Chief Engineer/Projects
TGSPDCL, Mint Compound, Hyderabad.

Whereas _____ (Name and address of Contractor) (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. ____ dated _____ to execute _____ (name of Contract and brief description of works) (hereinafter called "the Contractor").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract:

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ (amount of guarantee) * _____ (in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ (amount of guarantee) * as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be 10% of the quoted amount, which will cover 6months beyond the Contract Period or extended thereafter performance obligations including warranty obligations.

Signature and seal of the Guarantor _____
Name of the Bank _____
Address _____
Date _____

* An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

4. CONTRACT FORM (FORMAT-IV) (agreement form for successful Bidder)

THIS AGREEMENT made the. day of. 2025 Between.(Name of Purchaser) of the one part and.(Name of Supplier) of the other part:

WHEREAS the Purchaser invited bids for certain Materials / equipment and ancillary services viz.,.....(Brief description of Materials / equipment and Services) and has accepted a bid by the Supplier for the supply of those Materials / equipment and services in the sum of.(Contract Price in Words and Figures)(hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions will have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents will be deemed to form and be read and construed as part of this Agreement, viz.:
 - (a) the Bid Form and the Price Schedule submitted by the Bidder;
 - (b) the Schedule of Requirements;
 - (c) the Technical Specifications;
 - (d) the General Conditions of Contract;
 - (e) the Purchaser's Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Materials / equipment and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Materials / equipment and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the Materials / equipment and services which will be supplied/ provided by the Supplier are as under:

| Sl. No. | Brief Description of Materials / Equipment & services | Quantity to be supplied | Unit Price Rs. | Total Price Rs. | Delivery Terms |
|---------|---|-------------------------|----------------|-----------------|----------------|
| | | | | | |
| | | | | | |
| | | | | | |

TOTAL VALUE: (Rupees _____ only)

IMPLEMENTATION SCHEDULE:

IN WITNESS whereof the parties hereto have caused this Agreement to be executed on the day and year first above written.

Signed, Sealed and Delivered by the
 said.(for the Purchaser)
 in the presence of.

Signed, Sealed and Delivered by the
 said.(for the Supplier)
 in the presence of.

NOTE: To be executed on a Rs.100/- Non-judicial stamp paper.

5. DETAILS TO BE FURNISHED BY THE MANUFACTURER (Format A)

| | | |
|---|---|--|
| 1. Specification No. | : | |
| 2. Name of the Material | : | |
| 3. Quantity to be procured | : | |
| 4. Last date and time for submission of Bid | : | |
| 5. Date and time for opening of Bid | : | |
| 6. State whether Bid guarantee is enclosed | : | |
| 7. State whether the quotation in two parts has been submitted. | : | |
| 8. State whether total quantity is quoted | : | |
| 9. Whether willing to furnish performance B.G. @ 10% if order is placed | : | |
| 10. Whether month wise delivery schedule indicated | : | |
| 11. Prices whether Firm | : | |
| 12. Whether any other tax / duty payable. If so give details and the same is included / not included. | : | |
| 13. State whether TGSPDCL terms of payment are accepted | : | |
| 14. Quantity offered for supply | : | |
| 15. State whether 180 days validity offered | : | |
| 16. Whether sample is enclosed (if specified) | : | |
| 17. Whether the material / equipment offered conforms to the relevant TGSPDCL Specification | : | |
| 18. Whether you have executed orders of the TGSPDCL previously for these items. (Please give details) | : | |
| 19. Similar details in respect of supplies made to other utilities | : | |
| 20. Whether Bid guarantee exemption letter enclosed, if exempted. | : | |
| 21. Whether sales tax clearance certificate enclosed | : | |
| 22. Whether Income-tax clearance certificate enclosed. | : | |
| 23. Whether Warranty clause accepted | : | |
| 24. Whether Penalty clause accepted | : | |
| 25. Whether delivery schedule accepted | : | |
| 26. Whether willing to implement POC | : | |

6. SCHEDULE OF DEVIATION

(i) TECHNICAL

| Sl. No. | Requirements / Equipment | Specification Clause No. | Deviations | Remarks |
|---------|--------------------------|--------------------------|------------|---------|
| | | | | |
| | | | | |

It is hereby conformed that except for deviations mentioned above, the offer conforms to all the other features specified in Technical Specification Section ____ of this Bid Document

Place : Signature of the Bidder :

Date : Name :

Business address :

6. SCHEDULE OF DEVIATION

(ii) COMMERCIAL

| Sl. No. | Requirements / Equipment | Specification Clause No. | Deviations | Remarks |
|---------|--------------------------|--------------------------|------------|---------|
| | | | | |
| | | | | |

It is hereby conformed that except for deviations mentioned above, the offer conforms to all the other features specified in Commercial Specification Section ____ of this Bid Document

Place : Signature of the Bidder :

Date : Name :

Business address:

7. DECLARATION FORM

Declaration to be given by the Company in regard to relation to promoters of Blacklisted / debarred companies by any power utilities.

I declare that, myself or any of the representatives of my company / firm do not have any relatives with promoters of blacklisted / debarred companies by any utilities.

It is certified that the information furnished above is true to the best of my knowledge and belief. It is hereby undertaken that in the event of the above information found to be false or incorrect at a later date, the TGSPDCL is entitled to terminate the contract/agreement entered into besides recovering damages as may be found necessary, with due notice.

Signature of authorized representative

SECTION – VIII
GENERAL TERMS & CONDITIONS OF CONTRACT

GENERAL CONDITIONS OF CONTRACT

| | |
|----------|---|
| A | GENERAL |
| 1 | Definitions |
| 2 | Interpretation |
| 3 | Language and Law |
| 4 | Superintending Engineers'/ SCADA Decisions |
| 5 | Delegation |
| 6 | Communications |
| 7 | Subcontracting |
| 8 | Other Contractors |
| 9 | Personnel |
| 10 | Employer's & Contractor's Risks |
| 11 | Employer's Risks |
| 12 | Contractor's Risks |
| 13 | Insurance |
| 14 | Site Investigation Reports |
| 15 | Queries about the Contract Data |
| 16 | Contractor to Construct the Works |
| 17 | The Works to be completed by the Intended completion date |
| 18 | Approval by Chief General Manager/ Projects |
| 19 | Safety |
| 20 | Discoveries |
| 21 | Possession of the Site |
| 22 | Access to the Site |
| 23 | Instructions |
| 24 | Disputes |
| B | TIME CONTROL |
| 25 | Program |
| 26 | Extension of the Intended Completion Date |
| 27 | Delays Ordered by the Chief General Manager/ Projects |
| 28 | Management Meetings |
| 29 | Early Warning |
| C | QUALITY CONTROL |
| 30 | Identifying Defects |
| 31 | Tests |
| 32 | Corrections of Defects |
| 33 | Uncorrected Defects |
| D | COST CONTROL |
| 34 | Bill of Quantities |
| 35 | Variations |

| | |
|----------|--|
| 36 | Payments for Variations |
| 37 | Cash Flow Forecasts |
| 38 | Payment Certificates |
| 39 | Payments |
| 40 | FMS/AMC |
| 41 | Tax |
| 42 | Currencies |
| 43 | Retention |
| 44 | Liquidated Damages |
| 45 | Securities |
| 46 | Cost of Repairs |
| E | FINISHING THE CONTRACT |
| 47 | Completion |
| 48 | Training |
| 49 | Final Account |
| 50 | Operating and Maintenance Annuals |
| 51 | Termination |
| 52 | Payment upon Termination |
| 53 | Property |
| 54 | Release from Performance |
| 55 | Suspension of Loan or Credit by Funding agency |
| 56 | Force Majeure |
| 57 | Training Schedule |
| 58 | Exit Management |
| F | SPECIAL CONDITIONS OF CONTRACT |

GENERAL CONDITIONS OF CONTRACT

A. GENERAL

Terms, which are defined in the Contract Data, are not defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

1. DEFINITIONS

In this Contract, the following terms will be interpreted as indicated:

- a) **“Bill of Quantities”** : Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.
- b) **“Compensation of Events”** : Compensation Events are those defined in Clause 40 hereunder.
- c) **“Operational Go-Live”** : The Operational Go-Live is the date of completion of the Works as certified by the Superintending Engineer/SCADA
- d) **SCADA System**: Supervisory Control and Data Acquisition system enables to monitor and control the field substation equipment from remote area (control center) through installation of automation equipment (the main scope of this project)..
- e) **Inbuilt IEDs** : Inbuilt IEDs : SCADA Compatible relays IED (Intelligent electronic device) relays which support IEC 61850 protocol. This project envisages to integrate those relays to SCADA Control center by connecting them in the substation Fiber optic (FO) loop and configuring the ICD/CID files in the RTU..
- f) **“Defects Liability Period”**: The Defects Liability Period shall be in force and effect up to the end of the Contract period for the Agreement Quantity.
- g) **“The contractor”** is a person or corporate body whose bid to carry out the works has been accepted by the employer.
- h) **“The Contract”** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.
- i) **“The Contract Data”** defines the documents and other information which comprise the bid accepted by the Employer.
- j) **“The Contractor’s Bid”** is the completed Bidding document submitted by the Contractor to the Employer consisting of a) Technical bid and b) Price bid.
- k) **“The Contract Price”** is the price stated in the Letter of Intent and thereafter as adjusted in accordance with the provisions of the Contract.
- l) **“Days”** are calendar days; months are calendar months.
- m) **A Defect** is any part of the works not completed in accordance with the contract.
- n) The Employer is the party who will employ the Contractor to carry out the works. The Employer/ Utility/ Purchaser/ Discom/ TGSPDCL convey the same meaning.
- o) **The Superintending Engineer/SCADA** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Superintending Engineer/SCADA) who is responsible for supervising the Contract, administering the Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, and valuing the Compensation Events.

- p) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site for undertaking the Works.
- q) The Initial Contract Price is the Contract Price listed in the Employer's Letter of Intent.
- r) **"The Intended Completion Date"** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Employer by issuing an extension of time.
- s) **"Materials"** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- t) **"Plant"** is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.
- u) The Site is the area defined as such in the Contract Data.
- v) **"Site Investigation Reports"** are those which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.
- w) **"Specification"** means the Specification of the Works included in the Contract and any modification or addition made or approved by Chief General Manager (Projects)
- x) **The Start Date** is given in the Contract Data and is the date of issue of "Notice to Proceed" to the Contractor. It does not necessarily coincide with any of the Site Possession Dates.
- y) **"Temporary Works"** are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.
"A Variation" is an instruction given by the Superintending Engineer/SCADA which varies the Works.
"The Works" are what the Contract requires the Contractor to Construct, install, and turn over to the Employer, as defined in the Contract Data.

2. INTERPRETATION

- 2.1. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Superintending Engineer/ SCADA will provide instructions clarifying queries about the Conditions of Contract.
- 2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works the Completion Date, and the Intended Completion Date apply to any Section of the works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - (1) Agreement
 - (2) Letter of Intent, notice to proceed with the works.
 - (3) Contractor's Bid
 - (4) Contract Data
 - (5) Conditions of Contract
 - (6) Specifications

- (7) Bill of quantities and
- (8) Any other document listed in the Contract Data as forming part of the Contract.

3. LANGUAGE AND LAW

The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. SUPERINTENDING ENGINEER/ SCADA DECISIONS

Except where otherwise specifically stated, the Superintending Engineer/SCADA will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. DELEGATION

The Superintending Engineer/ SCADA may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. COMMUNICATIONS

Communications between parties which are referred to in the conditions are effect only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act.)

7. SUBCONTRACTING

Deleted

8. OTHER CONTRACTORS

The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall as referred in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

9. PERSONNEL

The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule of other personnel approved by the Chief General Manager/Projects. The Chief General Manager / Projects will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule. If the Superintending Engineer/SCADA asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the

Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

The contractor has to provide separate batches of workers and other key personnel for each bid, if he is awarded more than one bid.

10. EMPLOYER'S AND CONTRACTOR'S RISKS

The Employer carries the risks which the Contract states are Employer's risks, and Contractor carries the risks which this Contract states are Contractor's risks.

11. EMPLOYER'S RISKS

The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. CONTRACTOR'S RISKS

- 12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

13. INSURANCE

- 13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant and Materials;
- (b) loss of or damage to Equipment
- (c) loss of or damage of property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- (d) Personal injury or death.

- 13.2 Policies and certificates for insurances shall be delivered by the Contractor to the Superintending Engineer/SCADA for the Superintending Engineer/SCADA approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred

- 13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Superintending Engineer/SCADA.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. SITE INVESTIGATION REPORTS

The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

15. QUERIES ABOUT THE CONTRACT DATA

Chief General Manager (Projects) will clarify queries on the Contract Data.

16. CONTRACTOR TO CONSTRUCT THE WORKS

The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

17. THE WORKS TO BE COMPLETED BY THE INTENDED COMPLETION DATE

The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor as updated with the approval of the Superintending Engineer/SCADA, and complete them by the intended completion Date.

18. APPROVAL BY THE CHIEF GENERAL MANAGER/PROJECTS

The Contractor shall submit Specifications, schematics and Drawings showing the proposed Works to Chief General Manager (Projects), who is to approve them if they comply with the Specifications and Drawings.

19. SAFETY

The Contractor shall be responsible for the safety of all activities on the Site.

20. DISCOVERIES

Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Superintending Engineer/SCADA of such discoveries and carry out the Superintending Engineer/SCADA instructions for dealing with them.

21. POSSESSION OF THE SITE

21.1 The Employer shall give possession of all parts of the Site to the Contractor, if possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be compensation Event.

- 21.2 As per the contract data, the site possession dates shall be within a month after entering into the agreement.
If the site handing over is delayed by the Superintending Engineer/SCADA, the intended completion date shall be extended by the period of delay.

22. ACCESS TO THE SITE

The Contract shall allow the Superintending Engineer/SCADA and any person authorized by the Superintending Engineer/SCADA access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured/fabricated/assembled for the works.

23. INSTRUCTIONS

- 23.1 The Contractor shall carry out all instructions of the Superintending Engineer/SCADA which comply with the applicable laws where the Site is located.
23.2 The Contractor shall permit employer or his representative to inspect the Contractor's accounts and records relating to the performance of the Contractor.

24. DISPUTES

- 24.1 If the Contractor believes that a decision taken by the Superintending Engineer/SCADA was either outside the authority given to the Superintending Engineer/SCADA by the Contract or that the decision was wrongly taken, the decision shall be referred to the Arbitrator within 30 days of the notification of the Superintending Engineer/SCADA decision.

24.2 SETTLEMENT OF DISPUTES

If any dispute or difference of any kind whatsoever will arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties will make every effort to resolve amicably such dispute or difference by mutual consultation.

If, after thirty (30) days the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause will be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Materials / equipment under the Contract.

Arbitration proceedings will be conducted in accordance with the following rules of procedure. The dispute resolution mechanism will be as follows:

- 24.1 In the case of a dispute or difference arising between the Purchaser and a Supplier relating to any matter arising out of or connected with this agreement, such dispute or difference will be settled in accordance with the Arbitration and Conciliation Act, 1996. The Arbitral Tribunal will consist of three Arbitrators

one each to be appointed by the Purchaser and the supplier the Third Arbitrator will be chosen by the two Arbitrators so appointed by the parties and will act as Presiding Arbitrator. In case of failure of the two Arbitrators appointed by the parties to reach upon a consensus within period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator will be appointed by The Institution of Engineers (India).

- 24.2 If one of the Parties fails to appoint its Arbitrator in pursuance of Sub-Clause (a) within 30 days after receipt of the notice of the appointment of its Arbitrator by The Institution of Engineers (India), will appoint the Arbitrator. A certified copy of the order of the Institution of Engineers (India), making such an appointment will be furnished to each to the parties.
- 24.3 Arbitration Proceedings will be held at Purchaser's Headquarters, and the language of the Arbitration Proceedings and that of all documents and communication between the parties will be English.
- 24.4 The decision of the majority of Arbitrators will be final and binding upon both parties. The cost and expenses of Arbitration Proceedings will be paid as determined by the Arbitral Tribunal. However, the expenses incurred by each party in connection with the preparation, presentation etc., of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf will be borne by each party itself.
- 24.5 Where the value of the Contract is Rs. One Crore and below, the disputes or differences arising will be referred to the Sole Arbitrator. The Sole Arbitrator should be appointed by agreement between the parties; failing such agreement, by the appointing authority namely The Institution of Engineers (India).

Notwithstanding any reference to arbitration herein,

- (a) The parties will continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) The Purchaser will pay the Supplier any monies due the Supplier.

The arbitration if any in the disputes arising out of bidding process or in the execution of the contract, payments, penalties etc. shall be conducted in accordance with the arbitration procedure as laid down in Indian arbitration and conciliation Act. 1996. All disputes are subject to courts situated at HYDERABAD only.

B. TIME CONTROL

25. PROGRAM

- 25.1 Within the time stated in the Contract Data the Contractor shall submit to the Superintending Engineer/SCADA for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 25.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 25.3 The Contractor shall submit to the Chief Engineer/Projects, for approval, an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within the period, the Chief General Manager/Projects may withhold the amount stated in the Contract Data from the

next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.

- 25.4 The 'Chief Engineer /Projects' approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Chief Engineer /Projects again at any time. A revised Program is to show the effect of variations and Compensations Events.

26. EXTENSION OF THE INTENDED COMPLETION DATE

- 26.1 The Employer shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.
- 26.2 The Chief Engineer /Projects shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Chief Engineer/Projects for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new intended completion Date.

27. DELAYS ORDERED BY THE CHIEF ENGINEER/PROJECTS

The Chief Engineer /Projects may instruct the Contractor to delay the start or progress of any activity within the Works.

28. MANAGEMENT MEETINGS

- 28.1 Progress meetings shall be scheduled by the Utility and attended by the successful bidder each reporting period to review progress of the project. Progress meetings shall be used to review the progress report, written correspondence exchanged since the last meeting, and open action items. The review meeting will also be used to discuss upcoming milestones during the contract period, support needed from the Utility, risk identified by the Program team, risk mitigation strategies and to make decisions for path forward.
- 28.2 The successful bidder shall also attend technical meetings as and when required by the Utility to discuss technical aspects of the project and to review Utility comments on documents. When appropriate, these technical meetings shall be conducted as extensions to the progress meetings.

29. EARLY WARNING

- 29.1 The Contractor is to warn the Chief Engineer /Projects at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Chief Engineer /Projects may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

- 29.2 The Contractor shall cooperate with the Chief Engineer /Projects in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Chief Engineer /Projects.

C. QUALITY CONTROL

30. IDENTIFYING DEFECTS

The Superintending Engineer/SCADA shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Superintending Engineer/SCADA may instruct the Contractor to search for a Defect and to uncover and test any work that the Superintending Engineer/SCADA considers may have a Defect.

31. TESTS

If the Superintending Engineer/SCADA instructs the Contractor to carryout a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be Compensation Event.

32. CORRECTION OF DEFECTS

- 32.1 The Superintending Engineer/SCADA shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 32.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Superintending Engineer/ SCADA notice.

33. UNCORRECTED DEFECTS

If the Contractor has not corrected a Defect within the time specified in the Superintending Engineer/SCADA notice, the Superintending Engineer/SCADA will assess the cost of having the Defect corrected, and the Contractor will pay this amount and it will be recovered from his future bills.

D. COST CONTROL

34. BILL OF QUANTITIES

- 34.1 The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.
- 34.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities.

35 CHANGES IN THE QUANTITIES

- 35.1 If the final quantity of the work done differs from the quantity in the Part-II for the particular item by more than 25 percent provided the change not exceeds 1% of initial Contract Price, the Engineer shall adjust the rate to allow for the change.
- 35.2 The Engineer shall not adjust rates from changes in quantities if thereby the initial Contract Price is exceeded by more than 15 percent, except with the Prior approval of the Employer.
- 35.3 If requested by the Engineer, the Contractor shall provide to the Engineer with a detailed cost breakdown on any rate in the Bill of Quantities.

36. VARIATIONS

All variations shall be included in updated Programs produced by the Contractor.

37. PAYMENT FOR VARIATIONS

No price variation will be allowed. The new services which are going to be released during the contract period shall also be taken up by the vendor as per the rates agreed upon mutual consent based on prevailing market rate with the ceiling as per the agreement rate.

38. CASH FLOW FORECASTS

When the Program is updated, the Contractor is to provide the Superintending Engineer/SCADA with an updated cash flow forecast.

39. PAYMENT CERTIFICATES

- 39.1 The Contractor shall submit to the Superintending Engineer/SCADA monthly statements of the estimated value of work completed less the cumulative amount certified previously.
- 39.2 The Superintending Engineer/SCADA shall check the Contractor's monthly statement within 14 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question in respect of materials for the works in the relevant amounts.
- 39.3 The value of work executed shall be determined by the Superintending Engineer/SCADA.
- 39.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 39.5 The value of work executed shall include the valuation of Variations and Compensation Events.
- 39.6 The Superintending Engineer/SCADA may exclude any item certified in previous certificates or reduce the proportion of any item previously certified in any certificate in the light of later information.

40. PAYMENTS

40.1 The payment shall be made in Indian Rupees (INR) only.

40.2 If the supplier has received any over payments by mistake or if any amounts are due to the TGSPDCL due to any other reason, when it is not possible to recover such amounts under the contract resulting out of this specification, the TGSPDCL reserves the right to collect the same from any other amount and / or Bank Guarantees given by the company due to or with the TGSPDCL.

41. TAX

Goods and services tax (GST) as applicable (**prevailing now and applicable as and when amended**)

42. CURRENCIES

All payments shall be made in Indian Rupees

43. RETENTION

43.1 The Employer shall retain 5% from each payment made to the Contractor until Completion of the whole of the Works subject to a maximum of 5% of contract value.

43.2 On Completion of the whole of the Works half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the Superintending Engineer/SCADA has certified that all Defects notified by the Superintending Engineer/SCADA to the Contractor before the end of this period have been corrected.

43.3 On completion of the whole works, the contractor may substitute retention money with an “on demand” Bank guarantee.

44. LIQUIDATED DAMAGES:

For the works executed beyond the Intended completion schedule, penalty shall be levied for an amount of equivalent to 1 % of the value of the works not completed within the prescribed time limit for every week of delay or part thereof subject to a maximum of 15% of cost of the undelivered/unexecuted portion within scheduled time. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor’s liabilities.

45. SECURITIES

The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer not later than the date specified in the Letter of Intent and shall be issued in an amount form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

46. COST OF REPAIRS

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. FINISHING THE CONTRACT

47. COMPLETION

47.1 Physical works of installation, testing, commissioning and communication to Control center should be completed within three (06) months from the date of issue of Letter of Intent/Award.

47.2 The Contractor shall request the Superintending Engineer/SCADA to issue a Certificate of Completion of the Works and the Superintending Engineer/ SCADA will do so upon deciding that the work is completed.

48. Training to TGSPDCL Employees

The Bidder shall organize training to the core Group of implementation team of the TGSPDCL as well as end user training. Representatives from the successful bidder, Purchaser's implementation project and change management teams will be involved throughout in the development of training strategy, training material design and development, standards and training delivery to ensure that change management issues are incorporated, and that training strategies and materials are aligned to the requirements of the project and as business-specific as possible

49. FINAL ACCOUNT

The Contractor shall supply to the Superintending Engineer/SCADA a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Superintending Engineer/SCADA shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Superintending Engineer/SCADA shall issue within 56 days a schedule that states the scope of the

corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Superintending Engineer/SCADA shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the contractor's revised account.

50. PROGRAMMING AND MAINTENANCE MANUALS:

- 50.1 The Contractor shall supply the above by the dates stated in this document.
- 50.2 If the Contractor does not supply manuals by the dates stated in the Contract Data, or they do not receive the Superintending Engineer/SCADA approval, the Superintending Engineer/SCADA shall withhold the amount stated in the Contract Data from payments due to the Contractor.

Incidental Services

The Supplier may be required to provide any or all of the following services, including additional services, if any.

- a) Performance or supervision of on-site assembly and/or start-up of the supplied Materials / equipment;
- b) Furnishing of tools required for assembly and/or maintenance of the supplied Materials / equipment;
- c) Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Materials / equipment;
- d) Performance or supervision or maintenance and/or repair of the supplied Materials/ equipment, during warranty period, provided that this service will not relieve the Supplier of any warranty obligations under this contract; and

51. TERMINATION

- 51.1 The Employer or the Contractor may terminate the contract if the other party causes a fundamental breach of the Contract.
- 51.2 Fundamental breaches of Contract include, but shall not be limited to the following:
 - (a) The Contractor stops work for 14 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Superintending Engineer/SCADA.
 - (b) The Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation.
 - (c) The Superintending Engineer/SCADA gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Superintending Engineer/SCADA.
 - (a) The contractor does not maintain a security which is required.
 - (b) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
 - (c) If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.

For the purpose of this paragraph: “Corrupt practice” means the offering, giving receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. “Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition”.

- 51.3 When either party to the Contract gives notices of a breach of contract to the Superintending Engineer/SCADA for a cause other than those listed under Sub Clause above, the Superintending Engineer/SCADA shall decide whether the breach is fundamental or not.
- 51.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 51.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and leave the Site as soon as reasonably possible.
- 51.6 If there is any delay by the contractor in executing any item of works in the agreement as observed by the Superintending Engineer/SCADA or his representative, the Employer may at his discretion get such item of works executed through L2 (second lowest contractor or any other contractor who is willing to take up the works) so as to adhere to the targets / milestones fixed for the progress and to achieve the targets in time and the expenditure so incurred by the department will be deducted from the contractor’s bills / deposits besides levying penalty for the non-fulfillment of the contractual terms and conditions as per the terms and conditions of the agreement.
- 51.7 If the contractor is terminated due to delay in execution of works and as per clause 53.2, the execution of balance works will be entrusted to the next lowest bidder or any other contractor who is willing to take up the works and the extra financial commitment to the employer due to termination of contract and executing the works with another agency will be recovered from the contractor besides levying penalty for non-fulfillment of the terms and conditions of the agreement.

52. PAYMENT UPON TERMINATION

- 52.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Superintending Engineer/SCADA shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the differences shall be a debt payable to the Employer.
- 52.2 If the Contract is terminated at the Employer’s convenience or because of a fundamental breach of Contract by the Employer, the Superintending Engineer/SCADA shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor’s personnel employed solely on the Works, and the Contractor’s costs of protecting

and securing the Works and less advance payments received upto the date of the Certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

53. PROPERTY

All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

54. RELEASE FROM PERFORMANCE

If the Contract is frustrated by the outbreak of war or by another event entirely outside the control of either the Employer or the Contractor the Superintending Engineer/SCADA shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

55. SUSPENSION OF LOAN OR CREDIT BY GOVT. OF INDIA.

In the event that the funding agencies' suspend the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made.

(a) The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the funding agencies' suspension notice.

56. FORCE MAJEURE

The Supplier will not be liable for forfeiture of its performance security, penalty for late delivery, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contact is the result of an event of Force Majeure.

For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, wars or revolutions fires, floods, epidemics, quarantine restrictions, and freight embargoes.

If a Force Majeure situation arises, the supplier will promptly notify the Employer in writing of such condition and the cause thereof. Unless otherwise directed by the Employer in writing, the Successful Bidder will continue to perform its obligations under the Contract as far as is reasonably practice, and will seek all reasonable alternative means for performance not prevented by the Force Majeure event.

57. TRAINING SCHEDULE

As part of the project implementation plan, the successful Bidder shall draw up a training schedule in consultation with the Utility. This will enable the Utility representatives gain knowledge and understanding of the activities during the project implementation, so that they may discharge effective oversight and witness capabilities.

58. EXIT MANAGEMENT

Upon Termination of the Contract or expiry of the contract period, the successful bidder shall prepare and present a detailed Exit Management Plan with in5 (five) working days to the Utility.

After the Contract Period or Upon Termination of the Contract, the ownership, rights and title of the installed SCADA system and other equipment (if any) installed by the Bidder for operation of the SCADA system pursuant to this Contract shall be transferred to the Utility without any cost.

The bidder shall transfer the ownership of the entire system including all the hardware, software along with its valid licenses, and any data collected during the Project to the Utility at the end of the Contract Period to facilitate seamless operation of Utility businesses.

The Exit Management Plan should cover at least the following:

- a) Execute all documents that may be necessary to effectively transfer the ownership and title, including OEM warranties in respect of all equipment;
- b) Handover all developed codes, related documentation and other Configurable Items, if any in his possession;
- c) Handover the list of all IT Assets, passwords at all locations to Utility.
- d) Handover of ICD/CID files to utility

The exit management shall be done in such a manner that operations should continue without any restriction on access/usage of any kind of functionality. At the end of the Contract period, successful bidder shall provide necessary handholding and transition support to the Utility or its agency for maintaining the system post the Contract with the Bidder. This includes (but not limited to):

- a) Conducting training sessions;
- b) Knowledge Transfer;

Any other activity, over and above these, as may be deemed necessary to meet the service levels and requirements specified in the tender document.

SPECIAL CONDITIONS OF CONTRACT

| S. NO. | ITEM |
|---------------|--|
| 1. | DESCRIPTION |
| 1.1A | RESPONSIBILITY FOR EXECUTION OF THE CONTRACT |
| 1.1B | NOTICES |
| 2. | WORKING HOURS |
| 3. | EXTRA SHIFTS AND OVER TIME WORK |
| 4. | ACCIDENTS |
| 5 | INSURANCE |
| 5.1 | INDEMNITIES |
| 6. | LICENSE |
| 7. | TRANSPORT ARRANGEMENT |
| 8. | MACHINERY TOOLS AND TACKLES |
| 9. | SAFETY PRECAUTIONS |
| 10. | FIRE PRECAUTIONS |
| 11. | WORKING AREA AND CLEANLINESS |
| 12. | SITE DISCIPLINE |
| 13. | SITE OFFICE AND SITE STORES |
| 14. | APPROVAL OF INSTALLATION BY GOVERNMENT AUTHORITIES (CEIG) |
| 15. | MEASUREMENT OR WORK |
| 16. | INCOME TAX |
| 17. | TERMINATION OF CONTRACT FOR BOARDS CONVENIENCE |
| 18. | LABOUR |
| 19. | COMPLIANCE WITH LABOUR REGULATIONS |
| 20. | ARBITRATION |
| 21. | RESPONSIBILITY FOR EXECUTION OF THE CONTRACT |

SPECIAL CONDITIONS OF CONTRACT

1. DESCRIPTION

The Contractor shall, at all times during the continuance of the contract, comply full with all existing Acts, regulations and byelaws including all statutory amendments and reenactments of State or Central Government and other local authorities and any other enactments, notifications and acts that may be passed in future either by the State or the Central Government or local authority, including Indian workmen's Compensation Act, 1923. Contract Labour (Regulation and Abolition) Act 1970, the Child Labour Prohibition and Regulation Act, 1986 an Equal Remuneration Act 1976, Factories Act, Minimum Wages Act 1948, Provident Fund Regulations, Employees Provident Fund Act 1952 EPF Act 1996 and related acts passed from time to time. Schemes made under the Same Act the Buildings and other construction workers (Regulation of Employment and condition of service) Act 1996, the Cess Act 1996 and also applicable Labour Regulations, Health and Sanitary Arrangement for Workmen, Insurance and other benefits and shall keep TGSPDCL indemnified in case any action is commenced by Competent authorities for contravention by the Contractor.

If the TGSPDCL is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provision stipulated above on the part of the Contractor, the Superintending Engineer/SCADA shall have the right to deduct from any amounts due to the Contractor, his amount of Performance Security or recover from the Contractor personally any sum required or estimated to be required for making good the loss or damage suffered by the TGSPDCL, responsibility in connection with the employees of the contractor, who shall, in no case, be treated as the employee of the TGSPDCL at any point of time.

1.1A RESPONSIBILITY FOR EXECUTION OF THE CONTRACT

The Contractor shall carry out the entire work according to sound Engineering practices. The responsibility lies with the Contractor for the proper execution of the erection work according to existing laws and byelaws at the time of contract execution. The Contractor shall confirm in all respects to the requirements of CEIG (Chief Electrical Inspector to Government of Telangana) as and when required by them. However, the Contractor shall have to follow the instructions of the TGSPDCL or his authorized representative in respect of the following:

- 1.1 Progress report to be submitted from time to time
 - 1.1.1 Progress and completion of the work according to the time schedule
 - 1.1.2 Execution of contract work to the TGSPDCL entire satisfaction
 - 1.1.3 Submitting the details regarding the name of the responsible persons for execution of this contract.
 - 1.1.4 Preparing, submission and getting approval of the complete electrical system of the power plant including the switchyard, from the CEIG will be contractor's responsibility.

1.1B NOTICES:

All Certificates, notices or written orders to be given by the TGSPDCL to the Contractor under the terms of the contract shall be served by sending by post or delivering the same to the Contractor's principal place of business, or such other address as the Contractor shall nominate for this purpose.

All notices to be given to the TGSPDCL under the terms of the Contract shall be served by sending by post or delivering the same to the respective addressee nominated for that purpose.

The TGSPDCL's address is

Chief Engineer (Projects),
TGSPDCL, 4th Floor, Corporate office,
Mint Compound, Hyderabad

2. WORKING HOURS

Before commencement of work, the contractor shall inform in writing, the normal working hours for his staff and workers. These hours shall be as far as possible in consonance with the TGSPDCL's working hours for better coordination.

All the staff and workers should positively leave the site premises after these hours, except for authorized watch and ward personnel, approved by the TGSPDCL.

3. EXTRA SHIFTS & OVERTIME WORK

At the commencement of work, the Contractor shall arrange for a general shift, as per working hours.

If, at a later date the TGSPDCL feels that extra shifts should be started to complete the work allotted to the Contractor within the time stipulated or to make up for any past delays, the contractor shall arrange for.

4. ACCIDENTS

The TGSPDCL will not be responsible for any damages or compensation payable in consequence of an accident or injuries to any of the Contractor's personnel or any third party.

The Contractor shall insure at his cost-against any such eventually as per rules in force and submit the documentary evidence of the Insurance Policy taken, positively prior to commencement of work at site and should keep policy valid by paying premium and other charges till handing over of the plant.

In case of any accidents at or near the site in connection with the execution of work, the contractor shall within 24 hours, make a detailed report of the accident and submit the same to the purchaser in the form provided by the purchaser. The contractor shall also report such accidents to the competent authority as laid down by the existing rules and regulations and inform the TGSPDCL regarding the same.

5. INSURANCE

Insurance coverage for all items shall be at the risk of the contractor.

5.1 INDEMNITIES

The contractor is liable for and indemnifies the TGSPDCL against losses, expenses and claims for loss or damage to physical property, personal injury and death caused by his own acts or omissions.

The contractor claiming indemnity is to take all reasonable steps to mitigate the lower damage will occur.

The contractor indemnifies the TGSPDCL against claims to damages caused by the movement of his equipment or temporary works.

The Contractor shall submit an "Indemnity Bond" to the TGSPDCL incorporating the above points before taking up the execution of the work.

6. LICENSE

The contractor shall have valid contractor's license from Electrical Inspector of Telangana State, and he shall maintain its validity for the complete duration of the contract.

7. TRANSPORT ARRANGEMENT

The contractor shall make the transport arrangement at his cost for his staff and workers to site.

8. MACHINERY, TOOLS & TACKLES

The Contractor shall provide the required equipment, accessories, necessary tools and tackles, instruments, and all the normal consumable materials required for the satisfactory execution of this contract. The Contractor shall arrange for cranes for unloading and erection purpose, if required.

Gate Pass for Materials:

All tools, tackles, construction materials, welding materials etc. will be taken inside the site limits only after registration with security personnel. Also any material will be taken out only on valid gate pass issued by purchaser's representative after checking the proper "IN" gate passes. The contractor shall have to preserve the "IN" gate passes obtained from security when every /any material is route inside the site to enable taking back the balance/excess materials, Tools and Tackles after completion of works.

9. SAFETY PRECAUTIONS

All the safety measures to avoid accidents shall be followed strictly in accordance with the safety rules and regulation laid down by the government authorities. The Contractor shall take all safety precautions and shall provide proper scaffolding, lifebelts, ladder, shock proof helmets, etc. to avoid accidents and to ensure safety, of not only his personnel but also the safety of the staff and workers of other contractors working at the same site.

The contractor shall take necessary precautions to ensure that no part of the building/structure damage or disfigured due to negligence on his part while carrying out the work. In case of excess damage, the same shall be made good by the contractor immediately at his own cost. Recommissioning on energized equipment shall be carried out with proper safety permits issued by the Purchaser/Competent authorities. When required to work at heights or at hazardous location areas, the contractor shall carry out the same with utmost care and all safety precautions.

10. FIRE PRECAUTIONS

The contractor shall strictly instruct his site staff and workers to abide by the regulations in force at the site regarding all precautions to be taken to avoid fire hazards.

11. WORKING AREA & CLEANLINESS

The Contractor shall keep the site of work in a clean and sanitary condition. After the completion of the entire work, the contractor shall arrange to remove all the temporary structures, surplus materials, dirt, debris etc. from the site and the same should be transported to the District stores or any outside location as instructed by the Superintending Engineer/SCADA and finished work shall be handed over to the TGSPDCL in a clean and complete shape.

12. SITE DISCIPLINE

Strict discipline shall be observed by all contractors' personnel inside the premises of the site. The contractor and his personnel shall abide by all the rules and regulations of the TGSPDCL, Disciplinary action shall be taken against the Contractor/his personnel and their services liable to be terminated, if found quarreling violating the rules.

13. SITE OFFICE & STORES

The contractor will make necessary arrangements for erection of his site office and site stores after getting written permission from the TGSPDCL to erect such temporary structure at his own cost. Temporary metered power supply will be provided at one point on chargeable basis at the nearest switch room and further cabling upto the contractor's office or work is included in the Contractor's scope. Every meter of adequate rating and associate equipment for construction power distribution is in the Contractor's scope. The Contractor shall indicate construction power requirement in the Offer. The power consumption charges will have to be borne by the Contractor. However the non availability of the Crane does not leave the contractor off his responsibilities. The contractor is permitted to make use of water source available in any sub-station sites for construction purpose. Transport of water from the source to the working areas will be contractor's responsibility and to the account of the contractor only.

14. APPROVAL OF INSTALLATION BY GOVERNMENT AUTHORITIES (CEIG)

Whenever approval of government authorities is required, as per existing rules and regulations, the Contractor shall obtain the same.

15. MEASUREMENT

The Superintending Engineer/SCADA shall, except as otherwise stated ascertain and arrange to determine by measurement the value in terms of the contract of work done in accordance with the contract. He shall, when required any part or parts of the works to be measured, give notice to the contractor's authority agent or representative, who shall forth with attend or send a qualified agent to assist or the representative of the Superintending Engineer/ SCADA in making such measurement, and shall furnish all particulars required by either of them. Should the contractor not attend or neglect or omit to send such agent, then the measurement made by the representative of the Superintending Engineer shall be taken to be the correct measurement of the work.

The contractor shall submit his bills for work accomplished and to get the quantities measured by the representative of the Superintending Engineer/ SCADA.

16. INCOME TAX

Deductions will be made towards Income Tax at source by the TGSPDCL as directed by Income Tax Department. The Contractor's staff, personnel and labour will be liable to pay personnel income taxes in India in respect of such of their salaries and wages as are chargeable under the laws and regulations for the time being in force, and the contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

17. TERMINATION OF CONTRACT FOR TGSPDCL CONVENIENCE

The TGSPDCL shall be entitled to terminate this contract any time for the TGSPDCL convenience after giving 30 days prior notice to the contractor with a copy to the Superintending Engineer/SCADA.

18. LABOUR

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements, for the engagements of all staff and labour, local, or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Superintending Engineer/SCADA, deliver a return in detail, in such form and at such intervals as the Superintending Engineer/SCADA may prescribe showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting Contractor's Equipment as the Superintending Engineer/SCADA may require.

19. COMPLIANCE WITH LABOUR REGULATIONS

During continuance of the Contract, the Contractor and his sub contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, byelaws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the TGSPDCL indemnified in case any action is taken against the TGSPDCL by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the TGSPDCL is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/ bye laws/ Acts/ Rules/ regulations including amendments, if any, on the part of the Contractor, the Superintending Engineer/ SCADA shall have the right to deduct any money due to the contractor including his amount of performance security. The Superintending Engineer/ SCADA shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the TGSPDCL. The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the TGSPDCL at any point of time.

Salient features of some major labour laws applicable to establishments engaged in building and other construction work.

- a) **Workmen Compensation Act 1923:** - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishment employing 10 or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** - The Act provides for monthly contributions by the TGSPDCL plus workers (as applicable). The benefits payable under the Act are:
 - i. Pension or family pension on retirement or death, as the case may be.
 - ii. Deposit linked insurance on the death in harness of the worker.
 - iii. Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract labour (Regulation & Abolition) Act 1970:** - The Act provides for certain welfare measures to be provided by the contractor to the Contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal TGSPDCL by Law. The Principal TGSPDCL is required to take Certificate of Registration and the Contractor is required to take license from the designated officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- f) **Minimum Wages Act 1948:** - The TGSPDCL is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if

- the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- g) **Payment of Wages Act 1936:** - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
 - h) **Equal Remuneration Act 1979:** The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
 - i) **Payment of Bonus Act 1965:** - The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employee drawing Rs.3500/- per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above upto Rs.3500/- per month shall be worked out by taking wages as Rs.2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
 - j) **Industrial Disputes Act 1947:** - The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations or lock-out becomes illegal and what are the requirements of laying off or retrenching the employees or closing down the establishments.
 - k) **Industrial Employment (Standing Orders) Act 1946:** - It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
 - l) **Trade Unions Act 1926:** - The Act lays down the procedure for registration of trade unions of workmen and employees. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
 - m) **Child Labour (Prohibition & Regulation) Act 1986:** - The Act prohibits employment of children below 14 of age in certain occupations and process and provides for regulations of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.
 - n) **Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979:** - The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home up to the establishment and back, etc.
 - o) **The Building and Other Construction worker (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** - All the establishment who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified such as Canteens, First-Aid facilities, Ambulance, Housing

accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

- p) **Factories Act 1948:** - The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities.

It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

20. ARBITRATION

The procedure for arbitration will be as laid down in Indian Arbitration and conciliation act 1996. All disputes are subjected to courts situated at **HYDERABAD** only.

21. RESPONSIBILITY FOR EXECUTION OF THE CONTRACT

The contractor shall carryout the entire work according to best Engineering practices. The responsibility lies with the contractor for proper execution of work according to existing laws and bylaws. The contractor shall have to follow the instructions of the TGSPDCL or Engineer – In – Charge. The contractor shall furnish the following details.

- a) Progress reports shall be furnished weekly.
- b) The details of project manager and site supervisors.
- c) Approval test certificates before dispatch the material to site.
- d) Operating manuals and operating instructions shall be furnished.