Tripura State Electricity Corporation Limited (TSECL)

Invitation of Expression of Interest (EoI)

For

Preparation DPR & NIT and Assistance during award of contract to Execution Agency

for

Underground Cabling Network (MV & LT),

SMART GRID including GIS Mapping,

OFC Communication System by laying of Optical Fiber Cable (OFC) along with underground power cable

and

Distribution Control Center (DCC) with Distribution Network Automation (DNA) including Control Room Building (CRB)

in Agartala Municipality Area, Tripura

Approved.
30/1/2015
General Manager (Technical)
TSECL

REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – FIRMS SELECTION)

Name of Project: - Invitation of Expression of Interest (EoI) for "Preparation DPR & NIT and Assistance during award of contract to Execution Agency" for Underground Cabling Network (MV & LT), OFC Communication System by laying of Optical Fiber Cable (OFC) along with underground power cable and Distribution Control Center (DCC) with Distribution Network Automation (DNA) including Control Room Building (CRB) in Extended Agartala Municipality Area, Tripura.

Project No. **AGM(DP&C)/TSECL/CS/2024-25/13 dt.30-04-2025**

Assignment Title: - **Project Management Consulting Services**

1. Background

The Tripura State Electricity Corporation Limited (TSECL) is intending to execute the underground Cabling Works (33kV, 11kV & LT) of the new underground cable laying works and upgradation existing OH Line distribution infrastructure network to Underground Cabling network in different locations of the Electrical Sub-division-I, Electrical Sub-division -II and Electrical Sub-division -III area to an underground cable network, laying of Optical Fiber Cable along the power cable for OFC Communication System, construction of Distribution Control Center (DCC) with Distribution Network Automation (DNA) including Control Room Building) as part of TSECL's plan of creating a disaster resilient power distribution infrastructure of the Agartala for better reliability, capacity, safety and improved stability of power in the city of Agartala, Tripura, India.

As such, for the planning, design, preparation of layout drawings, detailed estimate and implementation of underground cabling in the mentioned area, laying of Optical Fiber Cable(OFC) along with underground power cable for OFC Communication System, construction of Control Room Building for Distribution Control Center and establishment of Distribution Network Automation (DNA) and preparation of Detailed Project Report and Notice Inviting Tender (NIT) for execution of the Works, TSECL desires to avail services of an experienced and reputed consultant for preparation of Detailed Project Report (DPR) of the entire plan and NITs and assistance for Technical Bid Evaluation till award of contracts to a competent and selected agency/ agencies.

1. The Scope of Work:

A: Preparation of DPR – Underground Cabling Network

(a) The scope of work is for preparation of Detailed Project Report (DPR) for underground Cabling Works (33kV, 11kV & LT) of the new underground cable laying works and upgradation existing OH Line distribution infrastructure network to Underground Cabling network in different locations of the Agartala encompassing a total area of approximately **20.00 Sq. km** covering the entire extended Agartala Municipality Area. The total scope of upgradation of existing overhead power distribution network to underground power distribution network and new underground network in terms of line length of 33kV, 11KV and LT network is tabulated below:

Sl. No.	Parameters	Approx. Qty. in Km

1	Conversion of 33kV Overhead Lines into Underground Lines	60.00 Km
2	Conversion of 11kV Overhead Lines into Underground Lines	410.00 Km
3	Conversion of L.T. Overhead Lines into Underground Lines	2100.00 Km
4	New 33kV underground Line	As per feasibility Study
5	New 11kV underground Line	
6	New LT underground Line	

(b) The above quantity may vary depending upon the final survey of the existing power distribution network of the mentioned Area.

(c) The DPR is to be prepared keeping in view the conversion of existing network as well as creation of new network. An optimal solution has to be provided by the consultant deliberating different alternatives of the mix of Underground & OH Lines.

(d) The scope of work inter-alia includes the following:

i. **Review of the Distribution Network Master Plan**: The Distribution Network plan for next **30 years** or more available with TSECL and collecting load forecasting data as per applicable method, shall be reviewed, giving year wise Network augmentations to meet the projected load growth and also ensuring that the Distribution Network satisfies the following:

   a. Voltage drop on the feeder is limited to statutory limits.
   b. Loading on the feeders shall not exceed break-even loading limits.
   c. The losses shall conform to prevailing international levels.

ii. **Evaluation of Existing Distribution Network**: Evaluation of existing network parameters in terms of loading, voltage regulations and Technical Losses shall be done and the existing Distribution Network condition shall be evaluated so as to determine/checking the following:

   a. Calculate Section wise voltage regulation and Line losses.
   b. Calculate / Evaluate Feeder wise technical loss.
   c. Segregate Technical (voltage wise and component wise) & Commercial losses.
   d. Identify the problematic areas with high voltage drops.
   e. Check the Adequacy of Sub Transmission capacity at 33 kV level sub stations.
   f. Check the adequacy of 33 kV, 11 kV and LT feeder lines.
   g. Overloading of distribution transformers.

iii. **Mapping of the Existing Network & Marking of Tentative Cable Connectivity**:

   a. Entire network from the level of LT pole up to 33kV Substation including DTs, shall be mapped with the help of the GPS indicating the mode of connectivity i.e., overhead wires /cables etc. The consultant shall undertake GPS survey from LT pole upto 33 kV Substation including DTs for mapping of the Existing Network &Marking of Tentative Cable Connectivity. The consultant shall deploy required number of survey teams for carrying out the GPS survey.
   b. The network map shall be superimposed with the tentative cable connectivity at different voltage levels. This would be separately marked with new, replacements etc.

iv. **Field Survey to Establish the Feasibility of the Identified Cable Route:**

a. Physical route survey would be undertaken to finalize the routes for the underground cables.
b. Suitable/Viable routes would be finalized for the cables to be laid separately for LT, 11kV and 33kV levels and due weightage would be given to the mode of cabling i.e., trenching, piping, ducting.

v. **Preparation of Detailed Project Report (DPR):**

a. The master data pertaining to technical parameters, design standards, execution methodology will be the backbone built on scientific studies undertaken by the Consultant.
b. The DPR shall be prepared and submitted Area wise and voltage level wise in phases as per priority of the area in consultation with PWD, Smart City & Govt. of Tripura.
c. Based on the mapping, the sizing of cables shall be finalized for different routes at the defined voltage levels.
d. Details of all the RMUs, (Ring Main Unit) Feeder Pillars, Service Pillars, any other equipment that are necessary for overall construction of the underground cabling system based on the requirements as indicated in the route map drawing attached in Annexures and further correspondence and requirement of TSECL.
e. The sizing of cables shall take care of the technical requirements /parameters including issues related with the protection coordination.
f. All the calculation of sizing of cables, voltage drops, etc shall be done using standard software.
g. Separate cable schedule for LT, 11 kV and 33KV areas shall be prepared and included in the DPR.
h. BOQ for the proposed cable schedule shall be prepared covering all the voltage levels including identification of the requirements of the cable accessories.
i. The cost estimate would be prepared on the basis of the BOQ. This should be so structured as to facilitate section wise, voltage level wise packaging for **NIT**.
j. The technical specifications for different voltage cables, Ring Main Units, Feeder Pillars, Service Pillars and other accessories including terminations would be also included in the DPR.
k. Technical specifications for cable laying would also be the part of the DPR.
l. The DPR shall also include the following:

- Section wise and voltage wise cable schedules.
- Section wise and voltage wise cost estimates.
- Section wise voltage wise voltage regulation calculation.
- Section wise voltage wise Protection coordination calculations.
- Section wise voltage wise network map including proposed cable routing.
- Section wise voltage wise assessment of completion schedule of the project.
- Technical specifications of cable supply and laying.

m. The DPR must consist of the detailed master schedule of the project along with all the resource allocation and budget estimate. The master schedule shall be considered as the baseline plan wherein all the project works shall be updated and reviewed. The project schedule shall be prepared preferably in Jira or MS Project. The necessary license of the software instances is to be brought in the name of TSECL.

Note: The consultant shall not engage any sub-consultancy firm for any kind of DPR preparation or project management works for the consultancy works for this tender. The selected consultant must be adequately resourceful for providing the required consultancy services for full and smooth execution of the project.

B: Preparation of DPR –Optical Fiber Cable (OFC) Communication System

B.1 Project Title:

Implementation of an **Underground Optical Fiber Communication System** for the Power Distribution Network in Agartala Municipality Area, Tripura.

B.2 Project Background:

TSECL is in the process of upgrading its electricity distribution infrastructure by transitioning to an underground power distribution network, which includes 18 distribution substations across the municipality. The growing demand for reliable electricity and efficient monitoring has necessitated the deployment of an optical fiber communication system to support automation, real-time monitoring, and enhanced control.

B.3 Objective:

The primary objective of this project is to design – engineering of a **fiber-optic communication system** integrated with the underground power distribution network. This system will facilitate high-speed data transmission between substations and the distribution control center, enabling:

- Real-time monitoring of distribution substations and transformers.
- Fault detection and isolation in the underground network.
- Remote control and automation via integration with **SCADA**.
- Future smart grid capabilities, including load management and demand response.
- **GIS Mapping of the Existing Network, New Proposed Network & Marking of Tentative Cable & Distribution Transformer Connectivity.**
- **SMART GRID - System Assessment and Planning for existing grid analysis to identify potential improvement areas, Load forecasting & demand response strategy development and Feasibility study for smart grid technologies integration.**

B.4 Scope of Work:

The scope of work for the project includes, but is not limited to, the following tasks:

B.4.1 **Network Design and Planning**:

- Design a scalable and resilient **fiber-optic communication network** to connect all 18 distribution substations and the distribution control center.
- Propose a suitable network topology (e.g., **ring topology**) to ensure redundancy and minimal downtime in case of faults.

B.4.2 **Survey and Site Assessment**:

- Conduct a comprehensive **site survey** to map the underground power cable network, including suitable routes for laying the optical fiber cables.
- Identify any environmental, geographical, or physical obstacles to the installation.

B.4.3 **Estimation of Materials and Equipment**:

- For supply and install **single-mode armoured optical fiber cables** compatible with the underground environment.
- For procurement necessary **optical-electrical converters, switches**, and other network equipment for seamless data transmission.
- For installation of jointing **kits**, splice closures, and necessary protection mechanisms for the optical fiber.

B.4.4 **Installation and Civil Works**:

- For laying of optical fiber cables in conjunction with underground power cables, ensuring proper **trenching, ducting**, and **mechanical protection**.
- For performing **fiber splicing and jointing** for connecting cables, ensuring compliance with international standards for optical fiber communication.
- For installation of necessary **surge protection devices** at key points near power cables to safeguard against electrical interference.

B.4.5 **Testing and Commissioning**:

- For testing the optical fiber network for signal loss, attenuation, and overall performance using **Optical Time Domain Reflectometry (OTDR)**.
- To integrate the optical fiber system with the existing or planned **SCADA** system for remote control and monitoring of the power distribution network.
- To conduct performance testing and training for the client's operational teams.

B.4.6 **Project Management and Supervision**:

- To ensure proper coordination between civil, electrical, and communication teams.
- To develop a **project timeline**, outlining key milestones from survey to testing and commissioning.
- To provide regular progress reports, detailing the work completed and any potential risks or delays.

B.4.7 **Maintenance and Support**:

- To provide a detailed plan for the **maintenance and support** of the fiber network, including routine inspections, fault repairs, and future expansions.
- To establish a **troubleshooting** protocol for quickly identifying and resolving fiber-related faults using tools like OTDR.

C: Preparation of DPR for Establishment of Distribution Control Center (DCC) with Distribution Network Automation (DNA) and Construction of Control Room Building for the DCC in a suitable location.

C.1 Introduction:

TSECL also wanted to construct a **Distribution Control Center (DCC)** with **Distribution Network Automation (DNA)** including **Control Room Building (CRB)** for the DCC for the

distribution network of Agartala Municipality Area to manage and ensure the reliable and efficient operation as the nerve center where operators monitor, control, and optimize the distribution of electricity.

C.2 Objectives of DNA:

a. Monitoring and Real-Time Supervision.

b. Fault Detection, Isolation, and Service Restoration (FDIR)

c. Load Management and Optimization - Load Balancing, Peak Load Management & Energy Efficiency

d. Voltage and Power Quality Regulation

e. Distributed Energy Resources (DER) Integration if arises and applicable.

f. Remote Control of Field Devices - Circuit Breakers and Reclosers, Transformers (Changing transformer tap settings remotely to regulate voltage), Capacitor Banks and Reactors (Switching capacitor banks or reactors in and out to manage reactive power and improve power factor) if available, Load Break Switches (Managing the configuration of feeders and lines to balance load or isolate faulty sections).

g. Safety and Reliability - Operator Safety & System Reliability.

h. Emergency Response and Crisis Management (During emergency situations like storms, natural disasters, or major equipment failures) : - Real-Time Alerts, Dispatch and Coordination & Load Shedding,

i. Data Collection, Analysis and Reporting (Historical Data Analysis, Predictive Maintenance & Regulatory Reporting)

j. Integration with Advanced Technologies: Smart Grid Technology (Separate AMI System is being constructed), Cybersecurity (manages cybersecurity protocols to protect the network from cyber threats and ensure the safety of critical infrastructure).

k. Customer Service and Satisfaction: - Faster Outage Restoration, Accurate Billing (Separate System is available) and Service Quality (monitoring power quality and usage data, the DCC contributes to accurate billing and ensures that customers receive reliable electricity service). Highlight the current network size (12 substations) and its voltage levels (33kV, 11kV, LT).

C.3 Scope of Work

The scope should cover:

- Study on existing System- Substations (18 Nos) and Overhead and underground distribution network (existing & upcoming), Design, Installation, and Commissioning of the Distribution Control Centre.
- Integration of Existing Infrastructure (substations, overhead, and underground lines).
- Automation Equipment Installation at substations, overhead lines, and underground cables.
- SCADA (RTU) and Communication Systems for real-time monitoring.

- Network Security and Cybersecurity Measures to safeguard the DCC from threats.

C.4 Functional Requirements

List the key functions that the DNA must handle:

- Supervisory Control and Data Acquisition (SCADA): For real-time monitoring and control of substations and field devices.
- Fault Detection, Isolation, and Service Restoration (FLISR): Automation to minimize the duration of outages and service disruptions.
- Automatic Voltage Control: Utilizing transformer tap changers and voltage regulators.
- Load Shedding and Load Management: To manage demand peaks and prevent overloading.
- Real-time Monitoring of Distribution Transformers: To track voltage, current, and power factor.
- Energy Metering and Analysis: For monitoring the power quality, losses, and consumption patterns (This is not required as AMI System is being separately constructed). Only communication interface provision is to be provided.
- Remote Control and Configuration of field devices.

C.5 Equipment to be Installed

a. Substations (33/11kV)

- Study on existing System and further Supply & ETC of Intelligent Electronic Devices (IEDs): For protection, control, and monitoring of circuit breakers, transformers, and feeder protection.
- Remote Terminal Units (RTUs): To interface between field devices and SCADA.
- Automated Transformer Tap Changers: To maintain voltage regulation.
- Capacitor Banks & Inductor Banks: For reactive power compensation.
- Circuit Breaker Control Systems: For automated opening and closing.
- Synchronous Condensers (if applicable): For voltage support.
- Study on existing on Meters and Sensors and further addition if required: For monitoring voltage, current, power factor, temperature, and other parameters.

b. Distribution Transformers (11/0.415kV)

- Remote Terminal Units (RTUs)
- Transformer Monitoring Units (TMUs)
- Automatic Voltage Regulation (AVR)
- Load Break Switch (LBS) with Supervisory Control
- Fault Passage Indicators (FPIs)

- Power Quality Monitors
- Communication Equipment - Modems, routers, or communication modules integrated with RTUs or TMUs.
- Supervisory Protection Relays - Protection relays help monitor for overloads, short circuits, or earth faults in the distribution transformer and trigger corrective actions - trip the transformer automatically in case of faults and send alarms to the DCC for further action.
- Capacitor Banks / Shunt Reactors - For voltage regulation and power factor correction, capacitor banks (or shunt reactors for inductive loads) can be controlled to maintain voltage stability and reduce energy losses.
- Distribution Automation Controllers – to perform automatic load balancing and demand response, helping the control center optimize network operation by redistributing loads and reducing energy losses.

c. Overhead Lines (33kV, 11kV)

- Reclosers and Sectionalizers: To automatically isolate faults and restore service after transient faults.
- Fault Indicators: For overhead line fault detection.
- Line Sensors: To monitor real-time load and voltage conditions.
- Load Break Switches: For remote control of line switching operations.

d. Underground Cables (33kV, 11kV, LT)

- Cable Fault Locators: To detect underground cable faults.
- Ring Main Units (RMU): For switching and protection in underground networks.
- RTUs and IEDs: For monitoring and controlling underground substations and equipment.
- Voltage and Current Sensors: To monitor underground cable conditions.

e. Distribution Control Center

- SCADA(RTU) System: For real-time monitoring and control of the network.
- Energy Management System (EMS) or Advanced Distribution Management System (ADMS): For distribution network automation and optimization.
- Data Historian: For storing operational data and historical trends.
- Geographic Information System (GIS): To map the network infrastructure.
- **Control Console (Large-Screen Displays)**

  The control console consists of large screen displays that provide an overview of the entire distribution network. These large-format displays (also called video walls) are strategically positioned at the front of the control room, offering operators a high-level view of the network's status. They work in conjunction with

individual operator workstations but provide a "big picture" view to quickly detect and respond to anomalies.

Key Components:

- Large-Format Video Wall Displays
- Size: Each display unit can be between 50 to 100 inches, with multiple displays arranged in a grid (commonly a 3x3 or 4x4 matrix).
- Resolution: High-definition (4K or better) for clear visuals, ensuring operators can easily see network diagrams, load flow, and fault indicators from a distance.
- Type of Display: LED/LCD or projection-based screens designed for 24/7 operation with minimal maintenance.
- Bezel-Less Displays: Modern video walls are bezel-less, minimizing the gap between screens for a seamless display of large, complex visuals.
- **Operator Workstations:** With real-time visualization and control capabilities.

f. **Communication** Network Equipment: Routers, switches, firewalls, and network interface devices for secure data transfer.

g. **Network** Security Systems: Including firewalls, encryption, and intrusion detection systems.

C.6 Communication and Networking Requirements

The DCC (DNA) requires a robust communication infrastructure to link substations, overhead, and underground equipment to the control room.

- **Communication Media**: Use fiber optic cables, microwave links, or secure wireless networks or 4G/4G ISP for fast and reliable data transmission.
- **Protocol Support**: Ensure the system supports communication protocols like IEC 61850, DNP3, Modbus, and others as needed for device communication.
- **Network Redundancy**: Incorporate redundancy in communication lines to prevent failures.
- **Cybersecurity Standards**: Adhere to international cybersecurity standards (like NERC CIP) to protect the network from attacks.

C.7 Software Requirements

The Distribution Network System / Distribution Control Center software should provide:

- **SCADA/ADMS/ DTMS**: For real-time network monitoring and management.
- **Outage Management System (OMS)**: For managing power outages and coordinating restoration efforts.
- **Demand Response Management System (DRMS)**: To manage load shedding and peak load reduction.

- **Data Analytics Tools (e.g. ETAP Real-Time/ Siemens Spectrum Power™ ADMS/ GE Grid Solutions (PowerOn)**: For predictive maintenance, fault prediction, and grid performance optimization.
- **Reporting Tools (e.g. Tableau / Microsoft Power BI / Cognos Analytics (IBM)**: To generate regular reports on network performance, faults, energy consumption, etc.

C.8 **Control Room Building**

a. Location Survey identified by TSECL, feasibility study to finalise Remote Distribution Control Center Building.
b. Design & Engineering
Geotechnical Investigation (Borehole Drilling and Sampling, Standard Penetration Test (SPT) / Cone Penetration Test (CPT), Plate Load Test, Shear Strength Test, Consolidation Test, Soil Bearing Capacity), Water Table and Permeability Tests, Soil Compaction (Proctor Test, Field Density Test), Soil Corrosion and Chemical Tests (pH, Chloride, Sulphate), Seismic and Liquefaction Assessment, Environmental Impact or Contamination Survey (if applicable).
c. List **of Drawings** – The DPR should include but not limited to the following drawings.

c.i Preliminary/Conceptual Drawings

a. Site Layout Plan: Showing the overall layout of the control room building, surrounding infrastructure, access roads, utilities, and nearby substations or lines.
b. Architectural Concept Plans: Initial layout of the building's floor plans, elevations, and sections.
c. Building Orientation/Site Survey Drawing: Reflects the natural topography and orientation of the building with respect to site conditions.

c.ii Architectural Drawings

a. Floor Plan Layout: Detailed floor plan showing room partitions, doors, windows, and functional spaces like control room, equipment rooms, communication rooms, etc.
b. Elevation Drawings: Front, side, and rear views of the building showing external appearance.
c. Sectional Drawings: Vertical cuts through the building showing interior details like height, materials, and internal layout.
d. Roof Plan: Layout of the roof, including slopes, drains, and equipment placed on the roof (like air conditioning units, antennas, etc.).
e. Interior Design Drawings: Showing the layout of furniture, racks, control panels, lighting, and other control room interior elements.
f. Door & Window Schedule: Details of each door and window with dimensions, materials, and specifications.
g. False ceiling & False Flooring Drawing.

c.iii Structural Drawings

a. Foundation Layout Plan: Detailing the location and design of foundations for the building and heavy equipment.
b. Structural Framing Plan: Detailing the layout and type of structural framework (columns, beams, slabs, etc.).

c. Reinforcement Details: Specific drawings showing the reinforcement details for beams, slabs, and columns.
d. Roof Framing Plan: Structural details of the roof, especially if heavy equipment or antennas are placed on it.
e. Load Bearing Wall Details: If any, with stress and load calculations.

c.iv Civil Drawings

a. Plot and Grading Plan: Detailed layout of the site with grading, drainage, roads, walkways, and utilities.
b. Underground Service Layout: Plan showing water supply, sewage, electrical ducts, and communication lines.
c. Stormwater Drainage Plan: Showing drainage layouts, stormwater management, and catch basins.

c.v Electrical Drawings

a. Single-Line Diagram (SLD): Electrical power distribution and automation control systems schematic.
b. Control and Protection Schematic Diagrams: Showing control circuits, relay settings, SCADA systems, and communication interfaces.
c. Lighting Layout Plan: Indoor and outdoor lighting circuits, including emergency lighting.
d. Power Distribution Layout: Detailing all power outlets, switchgear, transformers, UPS, and power supply systems.
e. Earthing Layout Plan: Showing the earthing systems for the building and equipment (especially for automation and control panels).
f. Fire Alarm and Detection System Layout: Detailed layout for fire alarms, smoke detectors, and safety systems.
g. Communication Layout Plan: Layout for SCADA, fiber optics, telecommunication systems, and control interfaces.
h. Cable Routing Layout: Routes for all electrical and communication cables inside the building.

c.vi Mechanical and HVAC Drawings

a. HVAC Layout Plan: Air conditioning, ventilation, and heating system layout for temperature-controlled rooms.
b. Plumbing Layout Plan: Water supply and drainage systems within the building.
c. Fire Suppression System Layout: Layout of fire suppression systems, including sprinklers, fire pumps, and gas-based systems (like FM200 or CO2) / Hydrant System.

c.vii Detailed Engineering/Shop Drawings

a. Panel Board Drawings: Detailed layout of electrical panels, including dimensioning and mounting details.
b. Equipment Layout Plan: Exact placement of control equipment, racks, and communication systems.
c. Cable Tray and Ductwork Layout: Detailed drawing for all cable trays, ducts, and support structures.

C.9 Training and Capacity Building

- Provide training to operators and engineers to handle the control center equipment and software.

- Conduct workshops on network automation, fault handling, and load management.

C.10 Implementation Timeline

- Define milestones for the design, procurement, installation, testing, and commissioning phases.
- Include a tentative timeline for the complete setup of the DCC.

C.11 Performance Monitoring and Evaluation

- Define key performance indicators (KPIs) for monitoring the effectiveness of the DCC.
- Conduct regular audits and maintenance checks to ensure optimal performance.

C.12 Budget Estimate

Provide an estimated budget for:

- Equipment costs.
- Software licenses.
- Communication infrastructure.
- Installation, testing, and commissioning.
- Training and support services.
- Control Room Building Construction Cost.

D: Preparation of NIT for Underground Cabling System:

The consultant agency shall prepare NIT for Supply & Service, Testing Commissioning and handing over the new and upgraded underground network system on the basis of the DPR mentioned in clause No.3. A.

The NIT shall include but not limited to the followings.

i. Scope of Work
ii. Technical Specification and Quantification of 33kV Cable with accessories.
iii. Technical Specification and Quantification of 11kV Cable with accessories.
iv. Technical Specification and Quantification of LT Cable with accessories.
v. Requirement of T&P for execution of the project.
vi. EHS Terms & Conditions to be implemented from inception to handing over the complete project.
vii. Time schedule for the complete project from manufacturing, supply, safe keeping of materials, execution, testing & commissioning and handing over the project.
viii. Liasoning with govt agencies, public bodies and other agencies or societies for ROW resolution for timely completion of the project.
ix. Technical qualification of the bidder.
x. Financial credentials of the bidder.
xi. Payment terms.
xii. Warranty & Guarantee.
xiii. Insurance – Transit, storing and EAR (Erection All Risk).

xiv. Exclusion.
xv. Liquidated Damage.
xvi. Exit from contact agreement.
xvii. Termination of Contract.
xviii. Indemnity.
xix. Force Majure.
xx. Governing Law and Dispute Resolution.

E: Preparation of NIT for OFC Communication System by laying of Optical Fiber Cable (OFC) along with underground power cable:

The NIT shall include but not limited to the followings.

i. Scope of Work
ii. Technical Specification and Quantification of optical fibre cable and all equipment for underground optical fiber communication System.
iii. Requirement of T&P for execution of the project.
iv. EHS Terms & Conditions to be implemented from inception to handing over the complete project.
v. Time schedule for the complete project from manufacturing, supply, safe keeping of materials, execution, testing & commissioning and handing over the project.
vi. Liasoning with govt agencies, public bodies and other agencies or societies for ROW resolution for timely completion of the project.
vii. Technical qualification of the bidder.
viii. Financial credentials of the bidder.
ix. Payment terms.
x. Warranty & Guarantee.
xi. Insurance – Transit, storing and EAR (Erection All Risk).
xii. Exclusion.
xiii. Liquidated Damage.
xiv. Exit from contact agreement.
xv. Termination of Contract.
xvi. Indemnity.
xvii. Force Majure.
xviii. Governing Law and Dispute Resolution.

F: Preparation of NIT for Distribution Control Center with Distribution Network Automation (DNA) and Control Room Building:

The consultant agency shall prepare NIT for Design -Engineering for establishment Distribution Control Centre (DCC) including construction of Control Room Building for the DCC on the basis of the DPR mentioned in clause No.3. C.

The NIT shall include but not limited to the followings.

a. Scope of Work
b. Complete Technical Specification and Quantification of DCC Equipment.
c. Complete Technical Specification and Quantification of DCC Softwares.
d. Complete Technical Specification and Quantification of Networking System.

e. Technical Specification, Drawings and Quantification for construction of Control Room Building.
f. Requirement of T&P for execution of the project.
g. Requirement of experts for execution of the Distribution Control Center.
h. EHS Terms & Conditions to be implemented from inception to handing over the complete project.
i. Time schedule for the complete project from manufacturing, supply, safe keeping of materials, execution, testing & commissioning and handing over the project.
j. Technical qualification of the bidder.
k. Financial credentials of the bidder.
l. Payment terms.
m. Warranty & Guarantee.
n. Insurance – Transit, storing and EAR (Erection All Risk).
o. Exclusion.
p. Liquidated Damage.
q. Exit from contact agreement.
r. Termination of Contract.
s. Indemnity.
t. Force Majure.
u. Governing Law and Dispute Resolution

G: Preparation of Tender Bidding Document and Award of Contract to Execution Agency

Preparation of detailed tender documents including RFP, special and contract conditions, technical specifications and BOQ evaluation and recommendation of responsive bidders to TSECL and assistance to TSECL for preparation OF LOI/Agreement.

H: Manpower Requirement:

The Consultant shall appoint minimum two technical resource persons, one during handholding/execution and one technical resource Project Manager in the Operation and Maintenance phase of the underground distribution network system.

The Project Manager will be single-point-of-contact for responding to all the queries from TSECL's HO and TSECL's sites or accepting its problem management requests.

The consultant shall deploy sufficient and qualified, skilled manpower to carry out the services.

It is imperative for the staff to know the requirements given in the RFP and be able to deal with all the queries related to the Underground Cabling System.

The Consultant shall ensure replacement in not more than 7 days of their staff whose performance is not found satisfactory by the TSECL HO/Sites.

Minimum technical Qualification of manpower should be BE/B.Tech. or equivalent with minimum 5 years of experience on the offered Network Analysis software.

The detailed CV of all such manpower shall be submitted along-with the bid.

Sl. No.	Details of Resource Persons for Execution of the Project	No. of Resource persons
1	Project Manager / Team Leader – Domain Expert of the project.	1
2	Distribution Expert (for mapping of the Existing Network & Executed underground cabling network) with expertise in GIS Software.	1

3	Graduate Civil engineer, underground cabling & ducting expert, underground Distribution Network Designer with AutoCAD Expertise	1
4	Surveyors with experience in distribution network system both OH Lines and Underground Cabling Network.	3
5	Graduate Engineer having experience of minimum 10 years in Fiber Optic Communication for system design and installation & Testing – Commissioning.	1
6	Graduate Electrical Engineer having 10 years' experience in design engineering of Transmission Control Center or Distribution Control Center or similar work.	1
7	Graduate civil engineer having experience of 10 years in design engineering on control room building.	1

Qualification Requirements for the Key Experts

NOTE: Experience of all the Key Experts in similar geographic area (NE States) shall be an added advantage.

Sl. No.	Key Position	Minimum Qualification and Professional Experience Desired	Area of Specific Expertise Desired and other terms
1.	Project Manager / Team Leader - Domain Expert of the project (1 No.)	1. Power Engineer holding bachelor's degree or higher in Electrical Engineering and having consulting engineering experience in underground power system upgradation in distribution/transmission sector for not less than 15 (fifteen) years. 2. Experience of successfully managing as a team leader at least 3 (three) nos. of power distribution utilities in last 5 years having estimated value of minimum Rs. 1 Crore in Power Distribution/ Transmission Sector. 3. Familiarity with underground cabling network planning, including budgeting, scheduling and resource allocation.	**Area of Specialization:** Distribution Planning and analysis, power system studies, underground power system operation, in Distribution/ Transmission Sector with voltage levels LT, 11kV, 33 kV and above. **Other Terms:** 1 Excellent command of English both written and orally and a proven track record in team leadership as well as management of project of similar magnitude. 2 The responsibilities are included but not limited to: a) Responsible for managing the project from start to finish, including budgeting, scheduling, resource allocation of the proposed underground cabling system as per the scope of works, and ensuring that the project is completed on time and within budget.

		4. Techno-commercial experience for preparation of Technical Specifications and NIT for distribution / transmission projects.	b) Team Leadership, Collection, analysis, validation of the network data, creation of network model for simulation, analyse the existing Distribution System, Load forecast, Project Management, Monitoring & Reporting, identify potential risks and remedial actions, and all other works as mentioned in the scope of works of the project. c) Liaison with various departments and stakeholders involved in the upgradation works.
2.	Distribution Expert (1 No.)	1 Power Engineer holding bachelor's degree or higher in Electrical Engineering and having professional work experience for not less than 10 (ten) years in power system/distribution/ transmission sector. 2 Experience of working in Power Distribution Engineering in at least 2 (two) projects involving power system study and planning of distribution/ transmission network using reputed network simulation software, network design and analysis such as loss reduction, substation and feeder optimization and distribution planning. Proficiency in configuration of mapping software and GPS.	**Area of Specialization:** Power System Study & Network Planning and design, Distribution planning, electricity demand forecasting and areas relevant to the scope of works under Part 2 of the project. **Other Terms:** The responsibilities inter-alia include: 1 Survey and Analysis of the existing distribution network of TSECL and analyse the performance under a range of realistic operating scenarios and all the other scope of works of the project. 2 Design and planning of the underground cable network, including selecting the appropriate cable types and sizes, determining the optimal routing, and ensuring compliance with relevant standards and regulations. 3 Assist team leader in monitoring, supervising, coordinating overall activities of other experts in the team.

			4 Identify bottlenecks of the prevailing distribution network, advice remedial measures and propose in the scheme.
3.	Civil engineer , underground cabling & ducting expert, underground Distribution Network Designer with AutoCAD Expertise	Power Engineer having degree in Electrical / Power System Engineering/ Civil Engineer with an overall experience of more than 5 years in the CAD designing.	**Area of Specialization:** Should possess expertise in using computer-aided design (CAD) software to create detailed drawings and plans of underground cable networks. Other Terms: The responsibilities inter-alia include: 1) Creating detailed drawings and plans of the underground cable network using computer-aided design (CAD) software.
4.	Surveyors with experience in electrical distribution network system both OH Lines and Underground Cabling Network.	1 A bachelor's degree in surveying, geomatics, or a related field with an overall experience of at least 5 years in Power Distribution Sector, Electrical substations, electrical power distribution, power system survey works, etc. relevant to the scope of works. 2 Proficiency in using surveying equipment, mapping software, and GPS. 3 Experience in conducting surveys for underground cable networks shall be preferred.	**Area of Specialization:** Power Distribution Sector, Electrical substations, electrical power distribution, power system survey works, etc. **Other Terms:** The responsibilities inter-alia include: 1. Assist the project manager and distribution expert to produce and collect the network data. 2. Conducting topographical surveys to determine the best route for the underground cable network. 3. Field visit and stay for collection of all data with respect to substations, 33kV, and 11kV & LT feeders as laid out in the scope of works of the project. 4. Validation and consultation of the collected data at every stage of data collection.
Sl. No.	**Key Position**	**Minimum Qualification and Professional Experience Desired.**	**Area of Specific Expertise Desired and other terms.**
5.	Fiber Optic Communication Expert for system	1 Bachelor's Degree in Telecommunications Engineering/ Electronics	**Area of Specialization:**

	design and installation & Testing – Commissioning.	and Communication Engineering/ Electrical Engineering, or a related field. 2 A Master's Degree in Communication Systems, Network Engineering, or Optical Communication can be an added advantage but is not mandatory. 3 Certified Fiber Optic Technician (CFOT) by the Fiber Optic Association (FOA), certified Fiber Optic Specialist/Design (CFOS/D) by the FOA, which focuses on system design, Fiber Optics Installer (FOI) by Electronics Technicians Association (ETA), Certified Network Infrastructure Technician (CNIT) or Certified Data Center Design Professional (CDCDP) for network infrastructure and data center management.	1 10 years of experience in fiber optic network design, installation, and supervision. 2 Prior experience in working with underground fiber installations, preferably alongside power distribution systems, understanding of safety regulations related to fiber optic cable installation near power cables . 3 Familiarity with environmental regulations for underground installations, trenching, and ducting works, up-to-date with the latest developments in fiber optic technology, smart grid communication, and the integration of fiber systems with SCADA and power distribution networks. 4 Experience in working on projects within urban municipal areas, coordinating with local authorities for necessary permits and compliance. 5 Experience in smart grid or utility communication systems. 6 Understanding of power distribution infrastructure and the requirements for integrating fiber optics with 33kV, 11kV, and LT networks. 7 Proficiency in using GIS (Geographic Information Systems) for mapping and planning fiber routes alongside underground power cables.
6.	Graduate Electrical Engineer having 10 years' experience	8 A bachelor's degree in electrical engineering with an overall	**Area of Specialization:** Power Distribution Sector, Electrical substations, electrical

	in design engineering of Transmission Control Center or Distribution Control Center or similar work.	experience of at least 10 years in in design engineering of Transmission Control Center or Distribution Control Center or similar work. 9 Proficiency in Automation hardware and software.	power distribution and Transmission Control Center. **Other Terms:** The responsibilities inter-alia include: 1 Assist the project manager and distribution expert to produce and collect the network data. 2 Field visit and stay for collection of all data with respect to substations, DTs, 33kV, and 11kV & LT feeders. 3 Validation and consultation of the collected data at every stage of data collection.
7.	Graduate civil engineer having experience of 10 years in design engineering on control room building.	1 A bachelor's degree in civil engineering having experience of 10 years in design engineering on control room building. 2 Proficiency in geotechnical survey, design-engineering of control room buildings.	**Area of Specialization:** Power Distribution Sector, Electrical substations, electrical power distribution, Geotechnical survey -soil investigation and civil design engineering for building design. **Other Terms:** The responsibilities inter-alia include: 1 Assist the project manager and distribution expert to produce and collect the Civil Engineering design data. 2 Conducting geotechnical survey to determine the best location for control room building construction. 3 Field visit and stay for collection of all data for control room building design. 5. Validation and consultation of the collected data at every stage of data collection.

Note: Any other job responsibilities not included above but required or requested for TSECL for completion of the project shall also be considered by the bidder.

I: DELIVERABLES

A: Detailed Project Report (DPR) for Underground Cabling Part:

(a) Submission of Draft DPR as mentioned in clause No.3.A, with detailed section wise estimate for 33 kV, 11 kV & LT new underground feeders new as per the Scope of Work mentioned: (4 Hard copies + 1 Editable Soft copy)

(b) Submission of Draft DPR as mentioned in clause No.3.A, with detailed section wise estimate for 33 kV, 11 kV feeders and LT OH Line replacement feeders as per the Scope of Work mentioned: - (4 Hard copies + 1 Editable Soft copy)
(c) Submission of Final DPRs with detailed section wise estimate as per the formats : -(4 Hard copies + 1 Editable Soft copy)
(d) Submission of Approved DPRs after acceptance - (4 Hard copies + 1 Editable Soft copy)
(e) The draft DPR shall cover the following:
   i. Section wise and voltage wise cable schedules.
   ii. Section wise and voltage wise cost estimates
   iii. Section wise voltage wise voltage regulation calculation.
   iv. Section wise voltage wise Protection coordination calculations.
   v. Section wise voltage wise network map including proposed cable routing.
   vi. Section wise voltage wise assessment of completion schedule of the project.
   vii. Technical specifications of cable supply and laying.
   viii. Cost estimates.

B: Detailed Project Report (DPR) for Optical Fiber Cable (OFC) Communication System Part:

(a) Submission of Draft DPR as mentioned in clause No.3.B, with detailed estimate as per the Scope of Work mentioned: (4 Hard copies + 1 Editable Soft copy)
(b) Submission of Final: - (4 Hard copies + 1 Editable Soft copy)
(c) Submission of Approved DPRs after acceptance - (4 Hard copies + 1 Editable Soft copy)
(d) The draft DPR shall cover the following:
   i) Scope of Work
   ii) Detailed Design Report: Including the fiber-optic network design, quantity, equipment specifications & quantity and network layout.
   iii) Survey and Assessment Report: Mapping the underground power cable network and identifying fiber-laying routes.
   iv) Technical specifications and quantity of Opital Fiber Cable and other equipments
   v) Implementation Plan: Covering the installation schedule, material procurement plan, and quality assurance protocols.
   vi) Requirement of T&P for execution of the project.
   vii) Requirement of experts for execution of the Optical Fiber Cable (OFC) Communication System.
   viii) List of Compliance and Standards: Like
      a) The project will adhere to relevant national and international standards for optical fiber installation, including:
      b) IEC standards for fiber-optic communication.
      c) ITU-T recommendations for single-mode fiber deployment.
      d) National and local regulations for underground utilities installation.
   ix) Cost estimates:
      a) A preliminary budget estimate will include costs for:
      b) Fiber-optic cables and network equipment.
      c) Civil works, including trenching and duct installation.
      d) Labor and professional services for installation, splicing, and commissioning.
      e) Contingencies and operational overheads.

   x) Timeframe:

Provide the implementation plan divided into key phases:

1. **Site Survey and Planning**: x months
2. **Procurement and Installation**: y months
3. **Testing and Commissioning**: z months
4. **Post-Commissioning Support**: n months

C: Detailed Project Report (DPR) for Distribution Control Center with Distribution Network Automation (DNA) including Control Room Building:

a. Submission of Draft DPR as mentioned in clause No.3.B, with detailed estimate as per the Scope of Work mentioned: (4 Hard copies + 1 Editable Soft copy)
b. Submission of Final: - (4 Hard copies + 1 Editable Soft copy)
c. Submission of Approved DPRs after acceptance - (4 Hard copies + 1 Editable Soft copy)
d. The draft DPR shall cover the following:
   i) Scope of Work
   ii) Complete Technical Specification and Quantification of DCC Equipment.
   iii) Complete Technical Specification and Quantification of DCC Software.
   iv) Complete Technical Specification and Quantification of Networking System.
   v) Technical Specification, Drawings and Quantification for construction of Control Room Building.
   vi) Requirement of T&P for execution of the project.
   vii) Requirement of experts for execution of the Distribution Control Center.
   viii) Cost estimates.

D: Notice Inviting Tender (NIT) – Underground Cabling Part:

(a) Submission of draft NIT as mentioned in clause No.3. A.: (4 Hard copies + 1 Editable Soft copy)
(b) Submission of final NIT: (4 Hard copies + 1 Editable Soft copy)
(c) Submission of Approved NIT after acceptance - (4 Hard copies + 1 Editable Soft copy)
(d) The draft NIT shall include but not limited to the followings.
   i. Scope of Work
   ii. Technical Specification and Quantification of 33 kV/11 KV/LT Cable with accessories.
   iii. Requirement of T&P for execution of the project.
   iv. EHS Terms & Conditions to be implemented from inception to handing over the complete project.
   v. Time schedule of the project.
   vi. Liasoning
   vii. Technical qualification of the bidder.
   viii. Financial credentials of the bidder.
   ix. Payment terms.
   x. Warranty & Guarantee.
   xi. Insurance – Transit, storing and EAR.
   xii. Exclusion.
   xiii. Liquidated Damage.
   xiv. Exit from contact agreement.
   xv. Termination of Contract.
   xvi. Indemnity.
   xvii. Force Majure.
   xviii. Governing Law and Dispute Resolution.

E: Notice Inviting Tender (NIT) – Optical Fiber Cable (OFC) Communication System Part:

(a) Submission of draft NIT as mentioned in clause No.3. B.: (4 Hard copies + 1 Editable Soft copy)
(b) Submission of final NIT: (4 Hard copies + 1 Editable Soft copy)
(c) Submission of Approved NIT after acceptance - (4 Hard copies + 1 Editable Soft copy)
(d) The draft NIT shall include but not limited to the followings.
  i) Scope of Work
  ii) Technical Specification and Quantification of 33 kV/11 KV/LT Cable with accessories.
  iii) Requirement of T&P for execution of the project.
  iv) EHS Terms & Conditions to be implemented from inception to handing over the complete project.
  v) Time schedule of the project.
  vi) Liasoning
  vii) Technical qualification of the bidder.
  viii) Financial credentials of the bidder.
  ix) Payment terms.
  x) Warranty & Guarantee.
  xi) Insurance – Transit, storing and EAR.
  xii) Exclusion.
  xiii) Liquidated Damage.
  xiv) Exit from contact agreement.
  xv) Termination of Contract.
  xvi) Indemnity.
  xvii) Force Majure.
  xviii) Governing Law and Dispute Resolution.

F: Notice Inviting Tender (NIT) – Distribution Control Center including Control Room Building:

(a) Submission of draft NIT as mentioned in clause No.3. B.: (4 Hard copies + 1 Editable Soft copy)
(b) Submission of final NIT: (4 Hard copies + 1 Editable Soft copy)
(c) Submission of Approved NIT after acceptance - (4 Hard copies + 1 Editable Soft copy)
(d) The draft NIT shall include but not limited to the followings.
  i) Scope of Work
  ii) Technical Specification and Quantification of DCC and Control Room Building.
  iii) Requirement of T&P for execution of the project.
  iv) EHS Terms & Conditions to be implemented from inception to handing over the complete project.
  v) Time schedule of the project.
  vi) Liasoning
  vii) Technical qualification of the bidder.
  viii) Financial credentials of the bidder.
  ix) Payment terms.
  x) Warranty & Guarantee.
  xi) Insurance – Transit, storing and EAR.
  xii) Exclusion.
  xiii) Liquidated Damage.
  xiv) Exit from contact agreement.
  xv) Termination of Contract.
  xvi) Indemnity.

xvii) Force Majure.

xviii) Governing Law and Dispute Resolution.

G: Assistance during Technical Bid Evaluation and Award of Contract to execution agency/agencies.

H: Time Schedule for Completion of the Work:

The total period of assignment would be **150 days** from the date of issuance of Letter of Award by TSECL. However, the time period may be mutually extended depending upon the constraints being faced during execution of the assignment as may be required. As the work is of emergency nature, there is no scope of further time extension except for force majeure condition during execution of the project.

The shortlisting criteria are as follows: -

I. MINMUM ELIGIBILITY CRITERIA

PRE-Qualification CRITERIA(PQC)

1. Experience in Project Management/Supervision/Execution (Completed or Substantially Completed) work in Extra High Voltage transmission engineering including survey/design/supervision of new installations(transmission line systems and AIS Substations from voltage level 132KV/220 KV/400 KV or Engineering, Supply, Civil works, Installation, Testing & Commissioning of 33 KV or above capacity switching/Sub Stations of minimum 4 MW capacity, as isolated work or part of Composite work like buildings etc. In case of Joint Venture any Partner of the JV should meet the required Criteria.
2. The Bidder shall have experience in Project Management work (Completed) in any Civil Construction and Electrical Work in the North-East India and value of the Project shall not be less than 150 Crores during last seven years from the due date of submission of Bid including extension. In case of Joint Venture any Partner of the JV should meet the required Criteria.
3. The bidder shall have experience in Project Management or Supervision of at least one project of Electrical/Civil projects(s) with conditions like hilly terrain, river crossing, waterlogged and forest areas etc. during the last seven years from the date of submission including extension.
4. The bidder shall have experience in Project Management or Supervision of at least one project of Electrical/Civil projects(s) with conditions like hilly terrain, river crossing, waterlogged and forest areas etc. during the last seven years from the date of submission including extension.
5. Any of the Single Entity/Partner (in case of JV), the Consultancy Firm should have a NABL Accredited Lab Facility (in case Consultancy Firm not have owned NABL Accredited Lab Facility, they can produce Tie-up agreement with NABL Accredited Lab/Government Engineering College) in the North East India.
6. A site visit certificate, certified by the tender inviting authority is must and shall have to be submitted along with the bid.

I. EVALUATION CRITERIA

The technical bid of each eligible Bidder shall be evaluated in accordance with the following methodology.

Sl. No.	Criteria	Maximum Marks
1.	**Past Experience of the Bidder/Consultant**	**35 Marks**
a.	Value of the Executed/Completed/Substantially completed Project of Electrical Work (involving UG Cabling work for value more than 75 Crores) during the last 7 years from the date of submission of the bid including extension. 200 Crores to 300 Crores – 10 Marks. Above 300 Crores– 15Marks.	15 Marks
b.	Experience in Project Management/Supervision/Execution (Completed or Substantially completed) work in Under Ground Cabling and High Voltage transmission engineering including survey/design/supervision of new installations (transmission line systems and AIS Substations from voltage level 132 KV/220 KV/400 KV) or Engineering, Supply, Civil Works, Installation, Testing & Commissioning of 33 or above capacity switching/Substations of Minimum 4 MW Capacity, as isolated work or part of Composite work like buildings etc. 5 Marks per Project subject to maximum of 10 Marks	10 Marks
c.	Experience in Project Management or Supervision of Electrical/Civil project(s) with conditions like hilly terrain, river crossing, waterlogged and forest areas etc. will be preferred. 5 Marks per Project subject to maximum of 10 Marks	10 Marks.
2.	**Financial Experience**	**15 Marks**
a.	Average Annual Financial Turnover in the last three financial years from PMC/Consultancy business (FY 2021-22, 2022-23, 2023-24) i. Equal to 10 Crore – 5 Marks ii. More than 10 Crore up to 20 Crores – 10 Marks	10 Marks
b.	Net- worth of the Bidder/Consultant ending on 31st March 2024. All Partners Jointly. i. Equal to 5 Cr. – 2.5 Marks. ii. More than 5 Cr. – 5 Marks	5 Marks
3.	**Technical Manpower***	**10 Marks**
a.	**Professionally qualified regular staff in the following categories**	
i.	**Electrical/Mechanical Engineer** (Min. qualification B. Tech) • 7 Nos. to 10 Nos. – 5 Marks • 10 Nos. to 15 Nos. – 7 Marks • More than 10 Nos. – 10 Marks	5 Marks
ii.	**Civil Engineer** (Min. qualification B. Tech) • 5 nos. to 10 nos. – 2 Marks.	2.5 Marks

	• More than 10 nos. – 2.5 Marks	
iii.	**Architect** (Min. qualification B. Arch) on role/empaneled • 2to 4 nos. – 2 Marks. • More than 4nos. – 2.5 Marks	2.5 Marks
4.	The Consultancy Firm should have a NABL Accredited Lab Facility in the North East India	**10 Marks**
5.	**Presentation**	**30 Marks**
	Methodology Understanding of Project and Presentation on made before TEC: • Past Projects with focus on special features and quality aspects (along with some photos) and special project management techniques that might have been used to execute the project speedily and within the initial budgeted cost. **(Max Marks 10)** • Technical Approach and methodology proposed towards this project with respect to the nature of typology. Methodology understanding of the Project and presentation on made before TEC **(Max Marks 5).** • Energy efficiency/overall savings safety measures, innovations etc. and innovative idea of Technology **(Max Marks 5).** • Project Management approach for this project - Work Plan including Time Schedule & Quality Assurance & HSE/Risk system, Project organization, responsibility of Key personnel etc. **(Max Marks 10)**	
	TOTAL	100 Marks

- The abstract of technical man power details along with their name, qualification, experience level/years in the similar nature of work are only required at the stage of tendering. An affidavit has to produce at the tendering stage stating that the details of manpower along with CV's, certificate, address of communication will be submitted to the authority within in 21 days from the receiving of the LOA.

II. The Bidder is also required to meet the following criteria.

a. The Bidder must have the General experience in both Power Sector and Civil Infrastructure Sector. In case of Joint Venture Partnership, all partners shall jointly meet the requirements.
b. The Bidder should demonstrate that they have the experience to handle analogous assignments in Power Sector. A Self-Undertaking shall be submitted on the LH. Any partner in case of Joint Venture.
c. Technical Key Experts for the requirement of the PMC Service shall meet jointly in case of Joint Venture.

III. <u>Shortlisting/Evaluation Criteria of Bidder</u>

A. <u>Evaluation of Technical Proposals</u>: -

For shortlisting Criteria, the Consultant/Joint Venture Partnership combinedly has to get minimum marks of 80 Marks out of 100 Marks. Other requirements as per shortlisting criteria, the consultants have to meet their required criteria, during the submission of this EOI.

Only those Applicants whose Technical Proposal get score of **80(Eighty) Marks** or more out of 100 (One Hundred) shall qualify for further consideration and shall be ranked from the highest to the lowest on the basis of their technical score **(SR)**.

The formula for determining the technical scores (ST) = 100 x T/Tm, in which "ST" is the technical Score, "Tm" is the highest technical score and "T" the technical score of the proposal under consideration i.e. TM is 100 & T is the bidders actual technical score after all evaluation.

B. **Evaluation of Financial Proposals:**

In the second stage, the financial evaluation will be carried out for financial evaluation, the total cost indicated in the financial proposal, will be considered. The Authority will determine whether the Financial Proposals are complete, unqualified and unconditional. The cost indicated in the Financial Proposal shall be deemed as final and reflecting the total cost of services.

The lowest Financial Proposal (FM) will be given a financial score (SF) of 100 points. The financial scores of other Proposals will be computed as follow:

SF = 100xFM/F

(F = amount of Financial Proposal)

C. **Combined and Final Evaluation:**

Proposals will be finally ranked according to their combined technical (ST) and financial (SF) scores as follows:

S = ST X Tw + SF X Fw

Whether S is the combined score and Tw and Fw are weights assigned to Technical Proposal and Financial Proposal i.e. Tw = 80% and Fw = 20%

The Selected Applicant shall be first ranked applicant (having the highest combined score). The second ranked Applicant shall be kept in reserve and may be invited for negotiation in case the first ranked Applicant withdraws or fails to comply with the requirements. In case the bidder is JV, the combined partners Experience score will be considered to evaluate the Technical Proposal and Financial proposal shall be the same as one in case of Joint Venture.

D. **Payment will be made after submission of all deliverables.**

IV. **Fraud and Corrupt Practices**: -

The Applicants and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, the Authority shall reject a Proposal without being liable in any manner whatsoever to the Applicant, if it determines that the Applicant has, directly or indirectly or through agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "**Prohibited Practice**") in the Selection Process.

Without prejudice to the rights of the Authority under Clause above hereinabove and the rights and remedies which the Authority may have under the LOA or the Agreement, if an Applicant or Consultant, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the selection process. Or after the issue of the LOA or the execution of the Agreement, such Applicant or Consultant shall not be eligible to participate in any tender or RFP issued by the Authority during the period of 2(two) years from the date such Applicant or Consultant, as the case may be, is found by the Authority to have directly or through a agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

For the purposes of this selection, the following terms shall have the meaning hereinafter respectively assigned to them:

"**Corrupt practice**" means (i) the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the selection process); or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/adviser of the Authority in relation to any matter concerning the Project;

"**Fraudulent practice**" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process.

"**Coercive practice**" means impairing or harming or threating to impair or, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process.

"**Undesirable practice**" means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a conflict of interest; and

"**Restrictive practice**" means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Selection Process.

V. Miscellaneous:

A. Pre-proposal Conference of the Applicants shall be convened at the designated date, time and place. Only those Applicants, who have downloaded the same from the Official Website of the Authority, shall be allowed to participate in the Pre-proposal Conference. A maximum of two representatives of each Applicant shall be allowed to participate on production of an authority letter from the Applicant.

B. The Selection Process shall be governed by, and constructed in accordance with, the laws of India and the Courts in the State in which the Authority has its headquarters shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Selection Process. The Authority, in its sole discretion and without incurring any incurring any obligation or liability, reserve the right, at any time, to:

1. Suspend and/or cancel the Selection Process and/or amend and/or supplement the Selection Process or modify the dates or other terms and conditions relating thereto;
2. Consult with any Applicant in order to receive clarification or further information;
3. Retain any information and/or evidence submitted to the Authority by, on behalf of and/or in relation to any Applicant; and/or
4. Independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of any applicant.

Payment Schedule:

SN	Deliverables	Payment
1	Concept, DPR & BOQs for Bidding	25%
2	Preparation of final BOQs, Engineering, Structural and Architectural Drawings	30%
3	Preparation of Bid Document & support during bid management process, upto selection of construction agency/ contractor	15%
4	Submission of inception report	10%
5	Monthly payment on pro data basis	20%

Further information can be obtained at the address below during office hours.

Expression of Interest must be submitted in a written form (Hard copy) in Sealed Envelope to the address below latest by 22/05/2025 up to 16:00 Hrs.

The AGM(DP&C)
Corporate Office, Bidyut Bhavan
Tripura State Electricity Corporation Limited
B.K. Road, Agartala, Tripura- 799001

FINANCIAL PROPOSAL

FIN FORM-1

(Separate Sealed Cover)

Covering Letter

(On Applicant's letter head)

(Date and Reference)

To,

.....

.....

Subject:

Dear Sir,

We undersigned, offer to provide services for "..... (name of project) in accordance with RFP dated xx/xx/xxxx.

The total cost for the PMC services shall be lumpsum Rs. _____

(The Quoted rate is excluding GST).

We agree that this offer shall remain valid for a period of 90 (ninety) days from the Proposal Due Date or such further period as may be mutually agreed upon.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

To,

The AGM(DP&C)

Corporate Office, Bidyut Bhavan

Tripura State Electricity Corporation Limited

K. Road, Agartala, Tripura- 799001