



OWNER:

MAITHON POWER LIMITED

PROJECT MANAGER:

MAITHON POWER LIMITED

PROJECT:

Supply & Commissioning of CONTROLLER 10 CHANNEL POE WITH MODEM in MAITHON POWER LIMITED, JHARKHAND

TENDER REF: (MPL/IMD/DB/2026-27/3000011000)

EXPRESSION OF INTEREST (EOI)

Supply and Commissioning of Controller 10 Channel POE with MODEM in MAITHON POWER LIMITED, JHARKHAND

Enquiry reference no.: - (MPL/IMD/DB/2026-27/ 3000011000)
Supply & Commissioning of CONTROLLER 10 CHANNEL POE WITH Modem in Plant MPL at 2 X 525 MW Maithon Power Limited (MPL), Jharkhand – India
Type of Bidding: E-tendering / Two Part
Contact Details: Ms. Debarati Bhattacharyya-Contracts, Mobile-9234000596, Email Id:-debarati.b@tatapower.com Ms. Jayashree Choudhury -Head Contracts & Materials, Mobile: 9234550658, Email Id:- choudhuryj@tatapower.com Maithon Power Ltd., (A Joint Venture Company of Tata Power & DVC), Works: Village Dambhui, P.O. Barbendia, P.S. Nirsra, District Dhanbad 828 205, Jharkhand, India

Maithon Power Limited ("Owner") invites Expression of Interest (EOI) from interested parties for the Two-Part e-Tendering Process of following Relevant Package:

Plant Details	Description	Tender Fee	Bid Security (EMD)
2X525 MW Maithon Power Limited (MPL), Dhanbad, Jharkhand	Supply & Commissioning of CONTROLLER 10 CHANNEL POE WITH MODEM at MAITHON POWER LIMITED, JHARKHAND	INR 2,000/-	INR 57,763/-

INTRODUCTION:

Maithon Power Limited (MPL) is a 74:26 joint venture of The Tata Power Company Limited and DVC (Damodar Valley Corporation). MPL owns and operates 2x525 MW capacity, Indian coal based thermal power generation plant based on pulverized coal-based boiler technology. The generating plant is in Maithon near the city of Dhanbad in the state of Jharkhand in India. A brief overview of Owner and Site is given below:

Site Name	2 X 525 MW Maithon Thermal Power Plant
Owner	Maithon Power Limited
Project Manager	Maithon Power Limited
Site Location	Maithon, Dhanbad district, Jharkhand, India, on the right bank of the river Barakar in the Nirsa-cum-Chirkunda C.D. Block of Dhanbad district, Jharkhand at a road distance of about 7.5 km from Nirsa, North of G.T. Road (N.H.2) and 10 km north of Mugma railway station on the Howrah Mughalsarai Grand Chord line of the Eastern Railway.
Elevation Above Mean Sea Level	156 m to 177 m above Mean Sea Level
Access to Site	➤ Road: About 7.5 km north of G.T. Road Nearest town is Nirsa ➤ Rail: Nearest Railway station – Mugma railway station.

1. TENDER FEE & TIMELINES:

- a) Interested parties meeting the pre-qualification criteria specified elsewhere in this document can request for Bid Document and participate in the bidding process by submitting their Expression of Interest (EOI) and credentials along with the Tender Fee **not later than 01st Oct 2026**. Request for Bid Document/EOI will be not be entertained EOIs submitted beyond this deadline may be liable for rejection.
- b) Non-Refundable Tender Fee, as indicated in table above, in the form of direct deposit in the following bank account and submit the receipt along with a covering letter clearly indicating the Tender Reference number

Details for payment of Tender Fee:	
Bank details for submitting Tender fees through bank transfer / NEFT:	Beneficiary Name – Maithon power Limited Bank Name – State bank of India Branch Name – CAG, Mumbai (09995)

	Address – Neville House, 23 J. N. Heredia Marg, Ballard Estate, Mumbai-400001 Branch Code –09995 Account No – 00000031828734113 Account type – CC IFSC Code – SBIN0009995
Deadline for tender fee payment and submission of EOI:	01 st Oct'26

It may be please be noted that all future correspondence will be strictly done only with Interested Bidders who have done the above steps in time with Authorized Person only through MPL E-Tender System.

C) Detailed Bid Document (also referred as RFQ) shall be issued through Tata Power e-tender portal (Ariba System) only to the parties that submitted a valid EOI as per terms mentioned in this document.

Bidder to note that commercials for subject tender may be conducted through e-auction. Detailed bidding and auction process shall be detailed in the RFQ / tender document

2. BIDDER PRE-QUALIFICATION CRITERIA:

Interested parties to note that Bidder shall be required to fulfill the following conditions and submit relevant supporting documents for each of the following criteria along with the Bid. Bidder must fulfill the following bidder pre-qualification requirement / criteria in order to qualify for the subject work. Bidder will be required to submit relevant supporting documents to demonstrate their qualification during the bid submission stage against Tender document / RFQ and bidders not found meeting the pre-qualification requirements given below will be disqualified from the tender.

4.1 TECHNICAL REQUIREMENT:

1. The tenderer must demonstrate proven experience engineering, manufacturing, assembly, supply, supervision of erection, testing and commissioning of Remote/Auto operation of paddle feeders/stacker reclaimers on turnkey basis complete with instrumentation, communication modules, and automation equipment's with all necessary accessories required for completion of the system.
2. Bidder to confirm that they (bidding company, their parent company or subsidiary company) were not involved in any litigation in last three years and there are no pending or open litigations. In case there were litigations in last 3 years or any present litigation is going on than details of the same must be submitted.
3. The bidder must have qualified technical staff, including system engineers with experience in Controllers, wireless devices installation, configuration, and maintenance.
4. The bidder shall have a minimum three (03) years of experience in providing Comprehensive automation Projects in material handling and also share any two PO copies of Rs. 50 Lacs.
5. The bidder shall submit at least one satisfactory completion certificate issued by the client for similar nature of work.
6. The bidder shall ensure compliance with all applicable labour laws, statutory requirements and safety regulations during execution of the contract

4.2 FINANCIAL REQUIREMENT:

The Bidder shall have adequate financial resources to execute the Contract concurrently with his other commitments and shall meet the following condition:

1. The bidder must have an average turnover of Rs. 2.5 Cr in last three FY. out of four FY 2021-22, 2022-23, 2023-24 & 24-25 (Balance Sheet, Profit & Loss Account Statement for turnover shall be submitted as a supporting document).
2. Audited Balance Sheet including Profit & Loss statement for the previous three completed financial years reckoned from the date of application. In case the audited documents are not ready / available, then certified copy by a registered practicing Chartered Accountant may be submitted

4.3 SAFETY REQUIREMENT:

- Safety Records---Please provide safety record for last three years. OHSAS : 18001 or 45001 Certificate, ISO 14001 ,9001 Certificate
- Scope of Work & BASCC will be provide at the time of RFQ

5. BID SECURITY/EMD (To be submitted along with RFQ and not with EOI):

Interested parties to note that Bidder is required to furnish a Bid Security along with their Bid (only during Bid Submission stage), as a Bank Guarantee (in the format prescribed in Bid Document) or as NEFT/RTGS/DD for an amount of INR 57,763/- (Indian Rupees fifty seven thousand seven hundred sixty three Only). Bids not accompanied by an acceptable Bid Security shall be rejected by the Owner as being non-responsive and returned to the bidder without being opened.

6. Scope of Job:

OVERVIEW OF WORK

This scope of work covers design an engineering, manufacturing, assembly, supply, supervision of erection, testing and commissioning of remote operation of paddle feeders on turnkey basis, complete with instrumentation, communication modules, and automation equipment's with all necessary accessories required for completion of the system.

Brief overview of the system: -

The Coal Handling Plant is equipped with four numbers of paddle feeders which are used for coal feeding from track hopper to yard conveyors. Currently this paddle feeders are operated manually by operators through local push buttons. The long travel is electrical motor based and plough feeder is hydraulic (Rexroth) speed is regulated by RA-2 amplifier Card.

Our objective is to control and operate the paddle feeder from CHP main control room without any local intervention of field operators. Sufficient safety devices and radar-based distance sensing devices should be installed in the paddle feeders so that safety of the equipment is maintained. The movement and position of paddle feeders will be monitored by CCTV cameras installed for forward and reverse direction.

The total track length is of 250 meters. The fixed end of the radar is to be kept at both ends the moveable end on the paddle feeders.

5. LAYOUT:

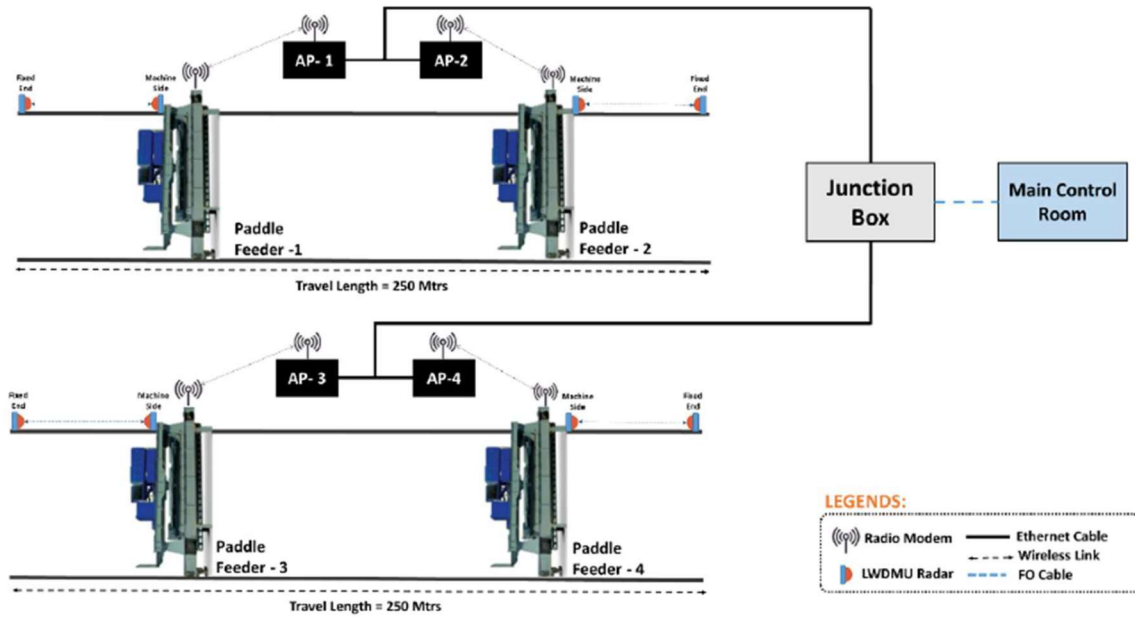


Fig 1.1: The above fig illustrates the Yard layout of paddle feeders.

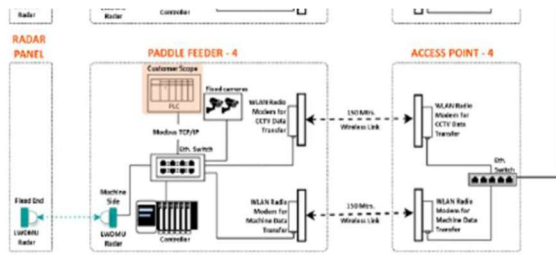
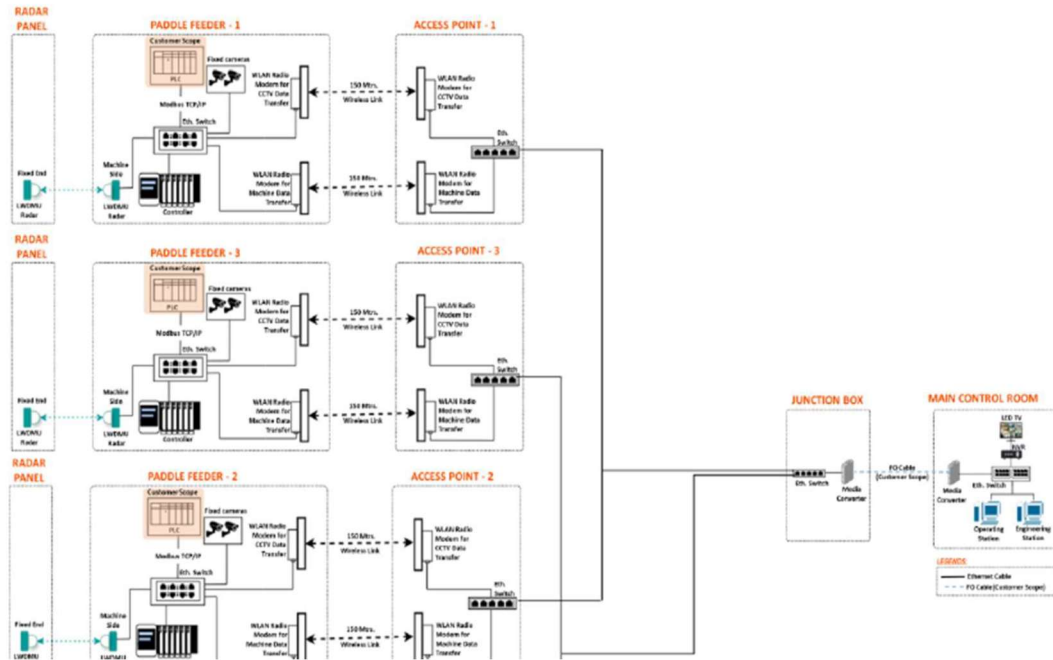


Fig 1.2: The above fig illustrates the overall Communication Scheme for remote operation of Paddle feeders.



As shown in the system configuration above, a remote operation system is proposed for Paddle Feeders – 1, 2, 3 & 4. Radar-based Long Travel Distance Measurement Units will be provided for accurate positioning and movement monitoring of the paddle feeders. The radars will be installed on both the machine side and the fixed end to continuously measure the long travel distance of the paddle feeders and provide real-time positional information. This positional data will be utilized to avoid collision between paddle feeders operating on the same track. The radar signals will be interfaced with a controller for further processing and monitoring. In addition, CCTV cameras will be installed on the paddle feeder machines for live visual monitoring of machine movement and operation. The machine data, including radar positioning and CCTV data will be transmitted through wireless radio modems to the nearest access point and further connected to the junction box. From the junction box, the data will be transferred to the Main Control Room through Fibre Optic Cable (OFC) connectivity.

In the CHP Control Room, all operational and feedback signals of the paddle feeders will be monitored through the SCADA system along with live CCTV visuals. Based on the SCADA feedback and CCTV monitoring, operators will be able to perform safe and efficient remote operation of the paddle feeders from the centralized control room.

For Paddle Feeder machines, one RADAR will be installed on the machine and the other RADAR will be installed at fixed end of the track for identifying the position information. Anti-collision functionality between machines will be provided by display of real time distances and alarms to enable the machine operator to take appropriate action manually. Anti-collision protection will enable both the machines to stop at safe distances given during the time of erection and the distance between both the paddle feeders will be measured and displayed at HMI for ease of operator.

There will be controllers installed in individual paddle feeders and CHP main control room with provision for DI/DO and AI/AO hardwire signal exchange. Important signals will be exchanged via hardwiring for each paddle feeders between paddle feeder & CHP control room. The detail of signals which will be exchanged are mentioned below.

1. BCN-1A Run Feedback.
2. BCN-1B Run Feedback.
3. Paddle Feeder EPB Feedback.
4. Paddle Local/Remote Feedback.
5. Paddle Plough RPM (AI).
6. Paddle plough Speed demand (AO).

The controller to be installed in paddle feeder and the existing Micro Logix 1400 (Controller CAT 1766-L32BXB) should communicate via Modbus TCP/IP protocol with the OWS and Engineering Station to be kept in CHP Control Room.

Detailed Bill of Materials: -

SL.

NO. Item Description

Paddle

Feeder CCR QTY. Units

At Paddle Feeder

1

Radar Based Linear Distance Measurement unit with antenna and other accessories

(1 No. on machine & 1 No. at fixed end)

1*4 0 4 Sets.

2 Controller, Network switch along with Enclosure & necessary accessories

1*4 0 4 Sets.

3

License Free Ethernet based Radio Modem with POE adaptor, with suitable antenna and other mounting accessories for Machine Data Transfer.

1*4 0 4 Nos.

4

License Free Ethernet based Radio Modem with POE adaptor, with suitable antenna and other mounting accessories for CCTV Data Transfer.

1*4 0 4 Nos.

5

CCTV Cameras (IP Based, Bullet, 2 megapixel) for Surveillance (with Night Vision) – 2 Fixed per paddle 1*4 0 4 Sets.

At access Point

6

License Free Ethernet based Radio Modem with POE adaptor, with suitable antenna and other mounting accessories for Machine Data Transfer.

1*4 0 4 Nos.

7

License Free Ethernet based Radio Modem with POE adaptor, with suitable antenna and other mounting accessories for CCTV Data Transfer.

1*4 0 4 Nos.

8

Network switch along with Enclosure & necessary accessories 1*4 0 4 Nos.

Junction Box

9 5 Port Unmanaged Ethernet switch 1 0 1 No.

10 Suitable sized CRCA enclosures as required along with accessories such as LIU and patch cords.

1 0 1 Lot.

Main Control Room

11 Operating PC with 24" Monitor with its accessories 0 1 1 No.

12 Engineering PC with 24" Monitor along with its accessories. 0 1 1 No.

13 Network switch 0 1 1 No.

14 NVR 0 1 1 No.

15 Controller for signal exchange with main PLC. 0 1 1 No.

Technical specifications of materials:

1. RADAR

Frequency Band 60 GHz band

Measurement range Up to 500 m

Opening Angle $\pm 3^\circ$

Repeat accuracy of measurement 3 mm

Accuracy 50 mm

Update rate 50 Hz

Supply voltage 9-36 V DC

Power consump on 7 W

Protec on class IP66, IP66k & IP68

Interfaces Ethernet (TCP/IP)

Data transmission Posi on data, user data, relay data

Antenna Mul ple MIMO Antenna Segments with Antenna

Diversity

2. CONTROLLER

Type 10-channel, mul -signal, mul func on remote I/O unit

Power Supply 802.3af POE or 10 to 32 V DC

Input voltage 5 – 30 V DC

Memory 1GB RAM, 4.0 GB user space

Ethernet Communica on Two switched Gigabit ports; daisy-chainable; ETH1 with 802.3af POE powered device (PD)

USB One USB 2.0 (for Wi-Fi adapter, serial adapter or USB
memory stick to 32 GB)

Protection Class IP66/67

3. RADIO MODEM FOR WIRELESS COMMUNICATION

Frequency band 2.4 Ghz and 5.8 Ghz Variants available

Bandwidth 56 Mbps to 300 Mbps

Tuning Range 2 MHz < -64 dBc

Capacity 2 up to 300Mbps Full duplex

Modulation Type 802.11 a/n: OFDM (64-QAM, 16-QAM,
QPSK, BPSK)

Rx Sensitivity Varying between -97 and -75 dBm
depending on modulation

Output Power Up to 29dbm

Network Management SNMP Enabled

Data Interface Ethernet RJ45

IP/Ethernet Interface 100Base-T with proprietary High-Powerover-
Ethernet

Power / Environment Input power 100-240VAC Output power
12-24 VDC

Enclosure IP 67

Integrated Antenna 15dbi, 18dbi, 20dbi, 23dbi (Optional)

4. WORK STATION

Make HP/Dell/Lenovo

Processor Intel Core i7

Chipset Integrated with Processor

Display 24" LED Colour Monitor

Memory 16GB RAM

Storage 512GB SSD

Graphics Integrated Intel® HD Graphics + Add on
Graphic Card

Networking Integrated Realtek® RTL8111H Ethernet
LAN 10/100/1000
(Dual Port)

Power Supply 230VAC, 50Hz

OS Microso[®] Windows 11[®] Pro

Ports Front: 2 USB; Rear: 4 USB, video (1600 x 1200), network;

Internal: 1 USB

Keyboard USB Entry Keyboard

Mouse USB Optical Mouse

Anti-virus Anti-virus with 5 Yrs. License.

5. CCTV CAMERA

Make Honeywell/CP Plus/ Bosch/Hikvision/Sparsh

Camera Type 5 MP IP WDR IR Bullet Camera

Image Sensor 1/2.8" CMOS

Resolution 4 MP (2592 × 1944)

Lens 5–50 mm, DC Iris, MFZ

IR Illumination Distance Up to 100 m

Video Compression H.265, H.264, MJPEG

Frame Rate Up to 30 fps

Ethernet Interface 10/100 Base-TX (RJ-45)

Local Storage MicroSD Card, up to 256 GB

Audio Two-way Audio (G.711, Full Duplex)

Alarm I/O 1 Alarm Input, 2 Alarm Outputs

Supported Protocols IPv4/IPv6, HTTP/HTTPS, RTSP, DHCP, SNMP, ONVIF

Compliance/Certifications ONVIF Profile Compliant & STQC compliant

Maximum Users 10 Simultaneous Users

Event Functions Motion Detection, Alarm Input, Email Notification,

Recording, Scene Change

Supported OS Microsoft Windows 10 / Windows 11

Scope Matrix:

SL. NO.	Item Description	QTY.	Vendor Scope	MPL Scope
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	Supply Scope			
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	1 Supply of Materials as per BOM indicated in the			
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	offer			
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	1 Lot.	Yes	No	
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2 Supply of 230VAC UPS at all locations.

As

required No Yes

3 Supply of CCTV System & Integration

As

required Yes No

4

Supply of all Erection Materials, Cabling

accessories

As

required

No Yes

5 Supply of Power cables and Cabling accessories

As

required No Yes

6 Supply of OFC cables along with media converters

and its accessories

As

required

No Yes

7 Supply of erection materials like cable trays,
conduits, cable glands, lugs and other accessories.

As

required

No Yes

Service Scope

1 Laying & splicing of OFC cables As

required

No Yes

2 Laying, Glanding & Termination of Power Cables As

required

No Yes

3

Erection & Installation for the proposed system
including required materials.

1 Lot. No Yes

4

Supervision of erection, Testing & Installation for
the Proposed System

As

required

Yes No

5

Provision of Operational signal Feedbacks
(Forward, Reverse, Start, stop...etc.) for
interlocking

1 Lot. No Yes

6 Programming of vendor supplied Controller to
communicate with RADARs

Per

Machine

Yes No

7 Programming and establishing MODBUS/TCPIP
communication with existing controller

Per

Machine

Yes No

8 Providing Necessary Permissions, gate passes and
arranging shutdowns for site works

As

required

No Yes

9 TO and FRO travelling, Local travelling expenses
of vendor Engineer.

As

required

Yes No

10 Accommodation and local travel of Vendor

engineer within premises

As

required

No Yes

Execution Methodology:

Step Execution Methodology

Engineering /

Design

Carry out detailed engineering, site verification, and preparation of drawings, calculations, and technical documents. Obtain all necessary approvals before commencement of procurement and execution activities.

Procurement Procurement all materials, equipment, and consumables as per the approved specifications and project requirements shall be procured by MPL.

Project

Management

Plan, coordinate, and monitor all project activities to ensure adherence to schedule, quality, safety, and contractual requirements. Conduct regular progress reviews and submit project status reports to the owner.

Delivery to Site

Arrange safe transportation, packing, and delivery of all materials and equipment to the project site. Ensure proper unloading, inspection, and storage to prevent damage or deterioration.

Pre-Erection

Activities

Verify site readiness, availability of utilities, foundations, drawings, tools, and lifting arrangements before commencement of erection. Complete all statutory permits, safety clearances, and pre-job inspections.

Supervision of

Erection Activities

Provide experienced supervisory personnel to oversee erection activities in accordance with approved drawings, specifications, and safety procedures.

Ensure proper alignment, installation, and quality checks during execution.

Pre-Commissioning

Activities

Carry out inspection, cleaning, calibration, continuity checks, flushing, and functional testing of all systems before commissioning. Rectify any deficiencies identified during pre-commissioning activities.

Commissioning

Activities

Perform commissioning of the system in accordance with approved procedures and OEM recommendations. Verify proper operation of all equipment, instruments, controls, and interlocks under no-load conditions.

Trial Run

Conduct trial operation of the complete system in co-ordination with CHP Operations for the specified duration to verify stable and reliable performance. Record operational parameters and rectify any abnormalities observed during the trial period.

Load Trials

Perform load trials under actual operating conditions to demonstrate the capability of the installed system. Monitor equipment performance and operational stability during the tests.

Performance Test

Carry out performance guarantee tests to demonstrate compliance with the specified technical and contractual performance parameters. Submit test reports and supporting documentation for owner's review and acceptance.

Handing Over

Complete all punch list items and submit as-built drawings, test certificates, operation & maintenance manuals, and other project documents. Formally hand over the system to the owner after obtaining successful completion and acceptance certificates.

Warranty terms and conditions:

Warranty of 1 year post commissioning of system shall be ensured by vendor for all bill of materials mentioned above.

Drawing and documents:

Following drawing and documents are considered as a part of this project.

Basic engineering drawing:

1. Basic system configuration diagram with networking layout diagram
2. General arrangement diagrams for all H/w erection
3. Power distribution diagrams for overall system

Detail engineering drawing:

1. Detailing and specification document of system
2. Specification documents for the system H/W
3. Functional specification documents
4. Detail mounting arrangement drawing for all H/w in machines
5. As built drawings (where ever applicable)

Training:

Following training will be provided by the Vendor to O&M Team:

1. System training (during system installation)
2. Operational Training (during system commissioning)
3. Maintenance training (after system installation)

Service Level agreement:

☐ The vendor has to mobilise the manpower for erection supervision and commissioning of system within 1 month of materials receipt in MPL Stores failing to which 5% of the services bill will be deducted from services PO value.

☐ Vendor shall take necessary precautions to ensure that there is no damage to existing facilities in any form. Cost of damage if any by action of vendor will be debited to him.

☐ The vendor has to mandate all safety norms of MPL failing to which penalty shall be imposed on Vendor as per the CSM norms.

General condition of contract:

☐ The Contractor will devote his undivided attention and time to the work entrusted to him by MPL and work diligently to the full satisfaction of Tata Power. The services shall be of good quality and in accordance with good engineering practices.

☐ The Contractor shall provide at his own expenses, facilities like, transport, food, medical, conveyance, etc., to all his employees working under his contract.

☐ The Contractor shall not do in or about premises anything, which in the opinion of the MPL may be or becomes a nuisance or annoyance or danger or which may adversely affect the property, reputation, or interest of the MPL.

☐ The Contractor will be solely responsible for any misconduct or behaviour of the persons provided by him and the contractor to take utmost precaution that no such misconduct occurs and if so, is severely dealt with.

☐ The Contractor shall not do any act in or about our premises anything whereby any policy of insurance taken out by the MPL against loss or damage by fire or otherwise may become void. MPL shall provide necessary guidance on this front in advance.

☐ The Contractor shall be liable for and make good any damage caused to our properties or premises or any part thereof or to any fixtures or fittings thereof therein any Act, omission default or negligence of the Contractor and its employees or agents.

☐ All workmen of the Contractor should carry their photo-passes when on duty. All the Contractor workmen should produce their passes to any security authority as when demanded. Security Staff will have the right to question / check workmen who involve in any type of activity which would cause damage to any property / materials of MPL.

☐ You shall bear the entire responsibility, liability and risk relating to coverage of your workforce under all the applicable statutory requirements & shall strictly follow all the Rules & Regulations mentioned in the contract.

☐ The contractor shall follow prevailing permit to work system during execution of maintenance job.

☐ The contractor shall have to follow all safety rules & regulations at the time of execution of jobs. All safety gadgets & appliances as required for carrying out jobs shall be supplied by the contractor.

☐ The contractor shall maintain cleanliness in his working area and the Jobs will not be declared complete until all technical wastes and materials including, scaffolding, scraps, rejects, and other wastes are removed from the site.

☐ The Contractor shall have to maintain and submit all statutory registers as required, in consultation with Personnel Department / Statutory bodies. Also, The Contractor shall abide by the legal provision as per factory act and rules.

☐ Working Hours for round the clock maintenance job duty shall be General shift daily with following timings: G Shift - 09:00 Am to 01.00 PM and 1.30 PM to 5.30 PM.