

**U&M DEPARTMENT  
MRS SECTION**

Tender No.: U&amp;M/MRS/T/024/22-23

Date: 24.01.2023

**TENDER NOTICE**

Sealed **two-bid** mode tenders in the prescribed form are invited on behalf of Cochin Shipyard Limited from experienced contractors for the under mentioned work on turnkey, so as to reach the undersigned on or before the date and time mentioned below. The tenders should be submitted in two separate envelopes superscribing the details as shown below.

Cover 1: Technical Bid

Cover 2: Price Bid

Tender No. & date	U&M/MRS/T/024/22-23, 24.01.2023
Name of work	Design, supply, installation, testing and commissioning of 20kWp on-grid solar power plant for two-wheeler EV charging stations in CSL
PAC	Rs. 13,70,000/- incl. GST
Site study at Cochin Shipyard Limited, Kochi	31.01.2023 at 10:30 Hrs.
Last date & time of receipt of tender	09.02.2023 up to 14:00 Hrs.
Date & time of opening of tender	09.02.2023 14:30 Hrs.
Time of completion of work	60 days after the mobilization period

Sealed tenders addressed to The Deputy General Manager (U&M) shall be dropped in tender box at Utilities & Maintenance Department, Cochin Shipyard Limited, Perumanoor P.O. Kochi – 682015, Kerala, India or to be sent by registered post so as to reach this office by due date and time. CSL will not be responsible for postal delay or non-delivery/non-receipt of tender documents.

Officer - in - Charge for the above work { Name : Midhun S.  
Designation : M (MRS)  
Contact No (M): +91 8138917190  
Contact No (L) : +91 484 250 1487  
E-mail : midhun.s@cochinshipyard.in

For Cochin Shipyard Limited

24/01/23  
Deputy General Manager (U&M)

Signature and Seal of the Contractor (s)



पंजीकृत कार्यालय : प्रशासनिक भवन, पी.ओ.बैग सं 1653, परुमानूर पी. ओ., कोच्ची - 682 015  
Registered Office : Administrative Building, P.O. Bag No. 1653, Perumanoor P.O. Kochi - 682 015  
फोन / Phone : +91(484) 2361181 / 2501200 फाक्स / Fax : +91 (484) 2370897 / 2383902  
वेबसाइट / Website : www.cochinshipyard.com, सीआईएन / CIN: L63032KL1972GOI002414

**मिधुन एस**  
**MIDHUN S**  
प्रबंधक / Manager  
कोचीन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd.  
कोच्ची / Kochi - 682 015



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**Note:-**

1. The bidder has to conduct a preliminary study of the CSL site for the actual design conditions for designing and setting up an optimum solar power plant of a 20 kWp capacity at Cochin Shipyard Limited.
2. This is a **turnkey job** and all required materials for the setting up of the system should be supplied by the contractor/ bidder.
3. It may please be noted that if any of the dates mentioned above is declared a public holiday, the dates mentioned above shall be extended to the next working day.
4. Any clarifications sought for this tender shall be done in writing/ telephone/ e-mail to the following address/ e-mail id:

Midhun S.  
M (MRS),  
U&M Department  
Email: midhun.s@cochinshipyard.in  
Mob: +91 8138917190, +91 484 250 1487

For Cochin Shipyard Limited

  
24.01.23  
Deputy General Manager (U&M)

Signature and Seal of the Contractor (s)

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**MIDHUN S**  
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Cochin Shipyard Ltd.  
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**GUIDELINES & ELIGIBILITY CRITERIA**

The documents to prove minimum eligibility criteria as given below should be submitted in a separate envelope superscribing "Documents related to minimum eligibility criteria" in the technical bid. However, a single set of eligibility documents is to be submitted by the bidders. The following criteria shall be eligible to apply:

1. The bidder should have service center operational for past 2 years in Kerala state to provide necessary after sales service to CSL during the warranty period. Documentary evidence for the details of service centers in Kerala operational for past 2 years should be enclosed with the offer.
2. The bidder should have had an average annual financial turnover of Rs. 10 Lakhs during the last 3 consecutive financial years.
3. The bidder should submit the list of manufacturers, type, size and other technical data of the equipment as specified in technical specification for the plant along with the offer. Offers without such information will not be eligible for consideration. A team of CSL official may visit the facilities of the bidders and the projects executed for verification.
4. Bidder should have experience in design, manufacture, supply, installation and commissioning of solar PV power plant and having successfully completed similar works during the last 7 years ending last day of month previous to the one in which tenders are invited should be either of the following:
  - a) Three similar completed works of capacity not less than 8kWp each  
OR
  - b) Two similar completed works of capacity not less than 10kWp each  
OR
  - c) One similar completed work of capacity not less than 16kWp

Details of orders executed along with completion certificate (self-attested copy) from the client indicating the performance, capacity and the value of work executed should be submitted along with the technical bid.

5. Tender shall be submitted in two separate sealed covers as given below superscribing the name of work, address of the tenderers.

**Cover – 1 (Eligibility Criteria & Technical Documents)**

- a) Document related to eligibility criteria.
- b) All technical documents duly filled and sealed in all pages including un-priced bid.
- c) Eligibility Criteria of the offer will be opened first. The techno commercial evaluation will be carried out only for those tenderers fulfilling the eligibility criteria. The Price Bid of non-eligible bidders (those who are not fulfilling minimum eligibility criteria, technical specification and



commercial terms) shall not be opened. CSL reserves the right to reject any or all offers without assigning any reason whatsoever.

**Cover – 2 (Price Bid)**

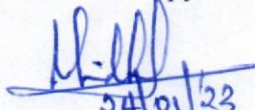
- a) Quoted price bid duly signed and sealed.

Tender document duly filled and signed along with official seal must be put in the proper envelope, duly sealed with clear recording of the tender notice number and due date on the envelope and should be submitted to this office as per the date stipulated.

**INSTRUCTION TO BIDDER**

1. The bidder shall be deemed to have carefully examined the technical specifications, special & general terms and conditions, work schedules and also to have satisfied himself as to the nature and character of the plant and equipment to be supplied and installed under the contract, the site conditions and all relevant matters & details. The bidder must visit the site and take firsthand information related to the contract before submission of tender.
2. The bidder shall note that any conditional offer will not be considered.
3. All pages of offers including bids, technical specifications, supporting documents etc. are to be signed by authorized signatory in each page and company seal should be affixed on each page. In case of non-compliance, offer is liable for rejection.

For Cochin Shipyard Limited

  
24/01/23  
for Deputy General Manager (U&M)

Signature and Seal of the Contractor(s)

मिथुन एस  
MIDHUN S  
प्रबंधक / Manager  
कोचीन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd  
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**TECHNICAL SPECIFICATION**

Sl. No.	System Component	Capacity/ rating	Minimum Technical Compliance
1	Solar panel	As per the requirement mentioned at each site	IS 14286 - Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules IEC/IS 61730 : Part I & II; IS 16170 : Part I IS/IEC 61701- Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
2	Grid Tied Inverter	As per the rating system selected	IS 16221: Part 1 & 2 - Safety of Power Converters for use in Photovoltaic Power Systems IS 16169 - Test Procedure of Islanding Prevention Measures for Utility-Interconnected Photovoltaic Inverters
3	Cables	As required to meet the specifications	IEC 60227 / IS 694 IEC 60502 / IS 1554 (Pt. I & II)
4	Switches/ Circuit Breakers/ Connectors	As required	IEC 60947 part I,II, III IS 60947 Part I,II,III EN 50521
5	Junction Boxes/Enclosures for Inverters/ Charge Controllers	As required	IP 54 (for outdoor) or IP 65 / IP 21(for indoor) as per IEC 529
6	Electrical Grounding (Earthing)	Module array and the PCU	As per IS 3043



## I. SPV MODULES

1. Only Mono PERC PV modules of 440Wp or higher capacity should be used in the power plant. Module efficiency shall be not less than 19%.
2. Shading correction/ bypass for optimizing array out to be incorporated in each solar module or panel level and shading optimization to be provided.
3. Each PV module used in any solar power project must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module laminate, but must be able to withstand harsh environmental conditions.
  - i. Name of the manufacturer of Mono PERC PV Module.
  - ii. Name of the manufacturer of Solar cells
  - iii. Month and year of the manufacture (separately for solar cells and module)
  - iv. Country of origin (separately for solar cell and module)
  - v. I-V curve for the module
  - vi. Peak Wattage,  $I_m$ ,  $V_m$  and FF for the module
  - vii. Unique Serial No. and Model No. of the module
  - viii. Date and year of obtaining IEC PV module qualification certificate
  - ix. Name of the test lab issuing IEC certificate
  - x. Other relevant information on traceability of solar cells and module as per ISO 9000 series
4. The following details should be provided on the module
  - i. Name of the manufacturer
  - ii. Month and year of manufacture
  - iii. Rated Power at STC
  - iv.  $V_{mp}$ ,  $I_{mp}$ ,  $V_{oc}$ ,  $I_{sc}$
5. The PV modules must qualify (enclose Test Reports/Certificates from IEC/NABL accredited laboratory) as per relevant IEC standard. The Performance of PV Modules at STC conditions must be tested and approved by one of the IEC/NABL Accredited Testing Laboratories.



6. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

## II. POWER CONDITIONING UNIT (PCU)

Output voltage	3 phase, 415 VAC Inverter/ PCU should be capable of synchronise with grid voltage between 110% and 80% of the rated output. Beyond this system has to stop generating.
Over Voltage / Under Voltage trip	When Voltages reaches above 110% or below 80% respectively, with clearing time up to two seconds for reconnection.
Frequency	50 Hz. Inverter/ PCU should be capable to synchronise with grid for a variation of frequency between 50.5 Hz and 47.5 Hz. Beyond this system has to stop generating.
Over and Under frequency Trip	High frequency at 50.5 Hz and low frequency at 47.5 Hz clearing time up to 0.2 seconds.
Continuous rating	Rated capacity of the configuration.
Nominal Power	Rated power should not be less than the rated capacity of the SPV array at STC.
Standard conformation	IS 16221 (Part 1,2) IS 16169:2014 (Procedure for Islanding prevention measures for Utility Connected PV Inverters)
Total Harmonic Distortion	Less than 5%
Operating temperature Range	-50 to 600 C
Housing cabinet	PCU to be housed in suitable switch cabinet, Within IP 21 (Indoor)/ IP 54 (Outdoor)
PCU efficiency	95% and above at full load.
Power Control	MPPT
Harmonic Current Injections	Shall not exceed the limits specified in IEEE519



Direct Current Injection	Less than 0.5 % of the full rated output at the interconnection point.
Flicker	Should be within the limits specified in IEC 61000
Synchronization	Automatic (Built into the inverter)
Hysteresis required for reenergizing	Sixty seconds at stabilized condition.
Power Factor	The PCU power factor at the point of distribution Licensee service connection shall be 0.95 lagging or leading when operating at above 25 percent of the rated output.
Maximum time for cease to Energize in the case of formation of an unintended Island	2 Seconds

1. The PCU shall not produce Electromagnetic interference (EMI) which may cause malfunctioning of electronic and electrical instruments including communication equipment, which are located within the facility in which the PCU is housed.
2. The PCU shall have an appropriate display on the front panel to display the instantaneous AC power output and the DC voltage, current and power input. Each of these measurement displays shall have an accuracy of 1 percent of full scale or better. The display shall be visible from outside the PCU enclosure. Operational status of the PCU, alarms, trouble indicators and AC and DC disconnect switch positions shall also be communicated by appropriate messages or indicator lights on the front of the PCU enclosure.
3. The PCU shall include an easily accessible emergency OFF button located at an appropriate position on the unit.
4. The PCU shall include ground lugs for equipment and PV array grounding.
5. All exposed surfaces of ferrous parts shall be thoroughly cleaned, primed, and painted or otherwise suitably protected to survive a nominal 30 years' design life of the unit.
6. The PCU enclosure shall be weather proof and capable of surviving climatic changes and should keep the PCU intact under all conditions in the room where it will be housed. The



inverter shall be located indoor and should be either wall/ pad mounted. Moisture condensation and entry of rodents and insects shall be prevented in the PCC enclosure.

7. Components and circuit boards mounted inside the enclosures shall be clearly identified with appropriate permanent designations, which shall also serve to identify the items on the supplied drawings.
8. Maximum Power Point Tracker (MPPT) - MPPT shall be integrated in the PCU to maximize the energy drawn from the array. The MPPT should be microprocessor based to minimize the power losses.

### III. ELECTRICAL SAFETY, EARTHING AND PROTECTION

1. **Internal Faults:** In built protection for internal faults including excess temperature, commutation failure, over load and cooling fan failure (if fitted) is obligatory.
2. **Over Voltage Protection:** Over Voltage Protection against atmospheric lightning discharge to the PV array is required. Protection is to be provided against voltage fluctuations in the grid itself and internal faults in the power conditioner, operational errors and switching transients.
3. **Earth fault supervision:** An integrated earth fault device shall have to be provided to detect eventual earth fault on DC side and shall send message to the supervisory system.
4. Cable connections must be made using PVC Cu cables, as per BIS standards. All cable connections must be made using suitable terminations for effective contact. The PVC Cu cables must be run in GL trays with covers for protection.

### IV. FACTORY TESTING

1. PCU shall be tested prior to shipment and factory test certificate for relevant parameters should be provided with the PCU supplied. CSL or authorized representative of CSL may be allowed to witness the tests if required.
2. Factory testing shall not only be limited to measurement of phase currents, efficiencies, harmonic content and power factor, but shall also include all other necessary



tests/simulation required and requested by the Purchasers Engineers. Tests may be performed at 25, 50, 75 and 100 percent of the rated nominal power.

## **V. PLANT METERING/ DATA LOGGING**

1. Energymeter shall be provided inside a circuit breaker box by CSL near to the PCU. The ac output of the inverter shall be connected in this circuit breaker box through this energymeter.
2. Web based monitoring system for the performance of the system should be provided and the link for access has to be provided to CSL.
3. For data logging and remote monitoring of the solar plant, Masibus MIG-21 IIOT gateway should be used. The remote monitoring system shall be tested and commissioned using Wi-Fi network or SIM to be arranged by the contractor. The connectivity of the gateway post commissioning of the plant shall be made through CSL provided SIM. The username and password for web monitoring should be shared with the CSL along with the submission of invoice.
4. All major parameters should be available on the digital bus and logging facility for energy auditing through the internal microprocessor and can be read on the digital front panel at any time the current values, previous values for up to a month and the average values.

## **VI. ARRAY SUPPORT STRUCTURE**

1. Structural material to be installed above aluminium/ steel rooftops shall be anodized aluminium channels/ Aluminium frame structures with adequate strength and in accordance with relevant BIS standards.
2. Structures shall be supplied complete with all members to be compatible for allowing easy installation at the site. Additional structures/ frames for required for the installation of modules if any need to be provided by the contractor.
3. The structures shall be designed to allow easy replacement of any module.
4. Each structure shall have a provision to adjust its angle of inclination to the horizontal as per the site conditions. Solar module should be inclined towards south direction and



installed at an angle of 10° to 15° from the horizontal in concrete terrace roof tops. In aluminium roof tops available angle of inclination of rooftop may be used as per the site conditions.

5. The contractor shall specify installation details of the PV modules and the support structures with appropriate diagrams and drawings. Such details shall include, but not limited to, the following:
  - i. Determination of true south at the site
  - ii. Array tilt angle to the horizontal, with permitted tolerance
  - iii. Details with drawings for fixing the modules
  - iv. Details with drawings for fixing the junction/ terminal boxes
  - v. Interconnection details inside the junction/ terminal boxes
  - vi. Structure installation details and drawings
  - vii. Electrical grounding (earthing as per BIS specifications) and surge protections.
  - viii. Inter-panel/ inter-row distances with allowed tolerances; and
  - ix. Lightning protection for PV array.
  - x. Safety precautions to be taken.
6. The array structure shall support SPV modules at a given orientation and absorb and transfer the mechanical loads to the rooftop column properly. Detailed design and drawing shall be submitted to CSL for acceptance and approval before execution of work.

## **VII. SURGE PROTECTION AND EARTHING**

1. The system should have installed with Surge Protection Device (SPD) for higher withstand of the continuous PV-DC voltage during earth fault condition. SPD shall have safe disconnection and short circuit interruption arrangements through integrated DC in-built bypass fuse (parallel) which should get tripped driving failure mode of MOV, extinguishing DC arc safely in order to protect the installation against fire hazards. The SPD should be provided in the AC Distribution Box as well.
2. Sufficient number of earth pits shall be provided for PV modules, mounting structures, inverters, DBs and lightning arrestors as per statutory requirement.



### 3. Earthing for PV Array

- i. The PV module, BOS and other components of power plants require adequate Earthing for protecting against any serious fault.
- ii. The Earthing for array and LT power shall be made as per the provisions of IS:3043.
- iii. Necessary provision shall be made for bolted isolating joints of each Earthing pit for periodic checking of earth resistance.
- iv. Each String/Array and MMS of the plant shall be grounded properly. The array structure has to be connected to earth pit as per IS standards. Necessary provisions shall be made for bolted isolating joints of each earthing pit for periodic checking of earth resistance.
- v. The complete earthing system shall be mechanically & electrically connected to provide independent return to earth.
- vi. For each earth pit, a necessary test point shall be provided.
- vii. The contractor shall submit the detailed specification for the Earthing arrangements.

## **VIII. LIGHTNING PROTECTION FOR PV ARRAY**

1. Lightning protection system meets necessary standards should be installed to protect PV array from Lightning.
2. Grounding (earthing) of lightning protector should be as per relevant IS standards.
3. If necessary, more numbers of lightning conductors may be provided.
4. The contractor shall submit the drawing and detailed specifications of the PV Array lightning protection system.

## **IX. AC DISTRIBUTION PANEL BOARD**

1. AC Distribution Panel Board (DPB) shall control the AC power from inverter and should have necessary surge arrestors.
2. An ACDB panel shall be provided in between PCU and Utility grid. It shall have MCB/ MCCB or circuit breaker of suitable rating for connection and disconnection of PCU from grid.



3. The connection between ACDB and utility grid shall be of standard cable/ Conductor with suitable termination. It shall have provision to measure grid voltage, current and power.

#### **X. DC DISTRIBUTION BOARD**

1. DC bus/ cable which can handle the current and the voltage of inverter output safely with necessary surge arrester as per the relevant IS standards.
2. DC panel should be equipped with an adequate capacity indoor DC circuit breaker along with control circuit, protection relays, fuses, annunciations and remote operating and controlling facility from the main control facility.
3. DCDB shall be made from enclosure which is dust and vermin proof, the busbar/cables are to be made of copper of desired size. DCDB shall comply with IP 65 protection.

#### **XI. MOUNTING STRUCTURE FOR PCU, AC & DC DBs**

1. The PCU, AC DB and DC DB shall be fixed on fabricated mounting structure.
2. The mounting structure shall be made of MS poles/ square sections.
3. All metal parts shall be applied with one coat of primer and two coats of epoxy paint of gray shade.
4. Provision for mounting a 2-row 24 module circuit breaker box near the PCU shall be considered while fabricating the mounting structure. Supply and installation of this circuit breaker box is in CSL scope.

#### **XII. CABLES, SWITCHES AND GENERAL REQUIREMENTS**

1. PVC insulated copper cables with current rating suitable for AC and DC as per the National Electric Code, and meeting:
  - a. General Test and Measuring Method as per IEC 60189/ IS 694
  - b. PVC insulated cables for working voltages up to 1100 V and UV resistant for outdoor installation as per IEC 60502/ IS 1554 (Pt. I & II)
2. Cable Marking: All cable/wires are to be marked in proper manner by good quality ferule or by other means so that the cable can be easily identified.
3. Switches/ circuit breakers/ connectors meeting general requirements and safety measurements as per IS 60947 Part I, II, III and EN 50521 for AC/DC.



### **XIII. AC/ DC WIRING**

Before submitting the tender, actual measurement of cables required for wiring from should be calculated and this work is also included in the tender. The actual cable required from module to DC distribution board, DC distribution board to inverter input and AC output of inverter/PCU to load point should be calculated and this work should be done as a part of Solar Power Plant installation. Separate drawings exclusively for the AC/DC Wiring should be provided.

### **XIV. INTER CONNECTION OF INVERTER OUTPUT WITH UTILITY GRID**

1. All the electrical works required for the interconnection of load with inverter output should be done by the successful bidder as a part of the Solar Power Plant installation.
2. A circuit breaker box shall be provided by CSL near the AC DB with suitable rating MCBs and metering for inter connection.

### **XV. WARRANTY**

1. 5 years warranty should be provided by the supplier for the system and components or part of the system has to be provided as per the special conditions of the contract.
2. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90 % at the end of 10 years and 80% at the end of 25 years.
3. The Warranty Card to be supplied with the system must contain the details of the system supplied.

### **XVI. OPERATION MANUAL**

1. An Operation, Instruction and Maintenance Manual, in English and Malayalam should be provided with the system.
2. The following minimum details must be provided in the manual:
  - i. About solar power plant – its components and expected performance.
  - ii. About PV module
  - iii. About electronics
  - iv. About charging and significance of indicators
  - v. DO's and DON'T's
  - vi. Clear instructions on regular maintenance and troubleshooting of solar power plant



- vii. Name and address of the contract person in case of non-functionality of the solar power plant.

#### **XVII. DISPLAY BOARD**

The logo of CSL and details of the scheme as specified in the work order should be displayed at each location.

#### **XVIII. ENGINEERING DRAWINGS**

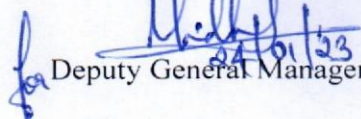
The contractor should submit and get the necessary approval of the following detailed Engineering Drawings before execution of the project:

- i. Single Line Diagram of the PV Power Plant.
- ii. Detailed Plot Plan for the Deployment of PV Array.
- iii. Schematic Diagram.
- iv. Module Mounting Structure (Plan & Elevation)

#### **XIX. LIST OF APPROVED MAKES OF EQUIPMENT AND MATERIALS**

Sl. No.	Item	Makes of Equipment and Materials
1	Mono PERC Solar Panel	Emmvee/ Tata power solar/ Vikram solar/ Waaree/ BHEL/ BEL/ CEL/ Adani solar only
2	Power Conditioning Unit (PCU)	SMA/ ABB/ Schneider/ Reffusol/ Solar Edge/ Delta Power solutions/ Power one micro systems/ Fronius/ Growatt make only
4	Array Junction Boxes	Hensel/ Spellsberg or equivalent of reputed make only
5	1.1kV XLPE Cable	DC side cable: Lapp/ Hellukabel/ TKD only AC side cable: Lapp/ Hellukabel/ TKD/ Finolex/ Havells/ Polycab/ Gloster only
6	Earthing & Lightning Protection	Cape, Erico, Furse, Excel, OBO, make only

For Cochin Shipyard Limited

  
Deputy General Manager (U&M)

Signature and Seal of the Contractor(s)



Tender No.: U&amp;M/MRS/T/024/22-23

Date: 24.01.2023

**SCOPE OF WORK**

1. The scope of work includes site study, design, supply, installation, testing and commissioning of **02 Nos. of 10kWp on-grid solar power plant (each) at rooftop of existing parking sheds at Cochin Shipyard Limited.** This is a **turnkey job**; all the materials required for the satisfactory completion of the project should be supplied and installed by the contractor.

Sl. No.	Location	Capacity	Type of roof
1	Dock House Parking	10kWp	Aluminium roof sheet
2	IAC Project Office Parking	10kWp	Aluminium roof sheet

The scope includes supply and installation of **Mono PERC** solar panels at roof top of aluminum sheets in (i) Dock House Parking and (ii) IAC Project Office Parking of Cochin Shipyard Limited, power conditioning units (PCU), module mounting structures, junction boxes, DCDB, ACDB, cables and accessories, data logging system, earthing & lightning protection including connected civil works and testing, commissioning of the plant, etc. The work has to be carried out as complying with the technical requirements/ standards for SPV systems/ power plants, defined under the programmes of Ministry of New and Renewable Energy (MNRE).

- The contractor should note that the specifications furnished in the order is of general nature only and it is the responsibility of the contractor to design, supply, install, commission and put in operation the equipment and services required for the satisfactory performance of the solar power system. The Solar PV system shall be synchronized with existing power system.
- The installation shall be considered as completed only after testing and commissioning of the system.
- All the necessary details, drawings and submission of application shall be furnished by the contractor for verification/ signature.
- Wherever necessary or required, the Supplier shall furnish the test and/ or inspection certificates from the appropriate authorities as per statutory regulations and the cost for obtaining these certificates shall be included in the Contract price.
- Sufficient safety measures are to be adopted. The safety precautions for the work of solar power plant at the roof top of parking sheds for affixing module mounting structure and solar modules are as follows.



- A safe means of access to the work area/ roof top shall be ensured. They shall be kept free from obstructions, substances and materials.
  - The supervisor of the contractor must ensure the workers are provided with the necessary Personnel Protective Equipment before the work starts. He shall also ensure that they use it appropriately.
  - The contractor shall inform the workers about the CSL HSE requirements to the workers through Toolbox Talk.
7. **Contractors are expected to visit CSL site to design the mounting structure and other related parameters for the solar power plant to be installed on rooftop of (i) Dock House Parking and (ii) IAC Project Office Parking of Cochin Shipyard Limited for site study.**
8. The work involves:
- a) Supply and installation of Solar PV modules, Power Conditioning Units, array junction boxes, AC distribution board, power and control cables including terminations, earthing & lightning protection system, data acquisition system with remote monitoring facilities, water pipeline system, etc.
  - b) Transportation, loading, unloading, loading and storage of all equipment/ materials are also under the scope of the contractor.

**Note:** Unless otherwise indicated/ specified, the quantity required shall be shown as per the design parameters/ requirement projected by the contractor for the plant. Any other items other than the above required for the successful commissioning and satisfactory performance of the system must be explicitly mentioned.

#### **APPROVAL OF SYSTEM DESIGN:**

The contractor has to ensure proper system designing that would include his own independent studies on peak sunshine data, resulting in the correct sizing of equipment for the solar energy system. It is therefore very important to form proper design procedures and component sizing before actual implementation. The design procedures and component sizing shall be as per internationally acceptable standards. The concept plan/ design of each subsystem shall be submitted to CSL for prior approval. Quality Assurance Plan should include design control, process control, quality control, testing of sub-system, integration and bill of material intended to be used.

#### **Errors and Omissions:**

- a) The contractor shall be responsible for all discrepancies, errors and omissions in the drawings, documents or other information submitted by him, irrespective of whether these have been approved, reviewed or otherwise accepted by CSL or not.



- b) The contractor shall take all corrective measures arising out of discrepancies, errors and omissions in drawings and other information within the time schedule and without extra cost.
- c) The contractor shall also be responsible for any delay and/ or extra cost if any, in carrying out engineering, and site works by other agencies arising out of discrepancies, errors and omissions stated in above as well as of any late revisions of drawings and information submitted by the contractor.

#### **INSTALLATION & COMMISSIONING:**

- a) The installation shall be done by the contractor, who is responsible for its performance and direction of installation & ensures structural stability. The contractor shall conduct a detailed site assessment. The PV installer shall obtain data specific to the site, rather than relying on general data. While making foundation design, due consideration shall be given to weight of the module assembly, maximum wind speed at the site etc.
- b) The SPV panel shall be mounted facing South where being used for optimum performance.
- c) The supporting structure should incorporate only corrosion resistant hardwares for all external connections.
- d) Sufficient ventilation/space should be provided at the time of PCU installation and as per the instruction manual of the item.
- e) Laying of cable/ earth strip through wall/floor by providing SS saddles/clamps at a distance of 400mm and inter connection should be provided as per drawing, IEA & CEA regulation.
- f) Giving connection, testing and commissioning of cable as per IEA.
- g) Installation of the maintenance free earth electrode after drilling/digging pit, refilling, providing earth pit chamber with bricks/RCC, cover etc. is also to the contractor's scope.
- h) Installation of earthing and lightning protection as per IEA.
- i) All materials required for successful completion of the work are under the scope of contractor.

#### **INSPECTION AND TESTING:**

- a) The contractor shall bear all costs of any and all inspections and tests.
- b) In case any equipment fails in inspection/tests or the test reports are not satisfactory, CSL shall reject or demand rectification/re-inspection. Re-inspection/retest shall be carried out only after necessary rectification work/replacement by the Contractor.
- c) On completion of the work all materials and temporary structure of any sort or kind used for the purpose or connected with the erection/installation work shall be removed by the contractor and all pits and excavations to be filled up and handover the site in a tidy and workmanlike condition.



## **TRAINING:**

- a) The Contractor shall arrange training for CSL persons about working procedures and systems covering working norms and quality standards.
- b) The Contractor shall supply all training manuals, instructions and other connected literature in 3 copies to CSL in English language along with the detailed training program.

## **WARRANTY:**

**The contractor has to provide 5 years comprehensive warranty for 02 Nos. of 10kWp solar power plant.**

- a) PV Modules used in solar power plants/system must be warranted for their output peak Watt capacity, which should not be less than 90% at the end of 10 years and 80 % at the end of 25 years. In case of any deviation observed during operations from the performance guarantee parameters cited, the contractor shall be informed in writing by CSL. The contractor shall be responsible to rectify the same within 5 days of notification without any extra cost to CSL.
- b) The Power Conditioning Units (PCU), whole part of mounting structures, data logging system, electrical cables, junction boxes, AC & DC distribution boards, bidirectional & unidirectional energy meters, water sprinkler system, circuit breakers, switchgear etc. and all materials included in the solar power plant/systems must be warranted against any manufacturing/design/installation defects for a minimum period of 5 years. In case of any deviation observed during operations from the warranty cited, the contractor shall be responsible to rectify the same within 5 days of notification without any extra cost to CSL.
- c) The systems offered shall be warranted (including consumables) by the manufacturer for use and services for a period of 5 years from the date of commissioning and solar modules shall have warranty for minimum 25 years. Free replacement warranty should be provided on spare parts against manufacturing defects for 5 years.
- d) The respond time to commence the rectification work shall be within 24 Hours on receipt of intimation either by telephone/e-mail/letter.
- e) If the contractor does not commence the rectification either by repair or replacement/does not complete the said rectification of such defects within the stipulated time from the date of notice, CSL may, at his option, rectify the defects at the contractor's expense and the entire expenditure to that will be realized from the security deposit.
- f) All repaired/replaced parts/equipments shall be subjected to inspection & tests as per approved quality assurance plan and inspection & test procedure mentioned elsewhere in the contract.



The contractor should provide direct warranty certificates from the manufacturer/ agency, whose materials are used in the solar power plant.

**MAINTENANCE DURING WARRANTY PERIOD:**

After successful commissioning of the solar power plant contractor must do the following maintenance works once in Two months.

- a) Cleaning of the SPV module, inverters and all electrical equipment.
- b) Tightening of the connections & structure bolts.
- c) Checking of all equipments/materials of the entire system.

The entire work should be done to the full satisfaction of the engineer-in-charge deputed for this work from CSL.

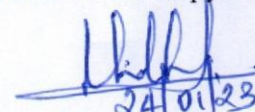
**SUB-CONTRACTS:**

The contractor shall not sub-contract the work in whole to third parties for the performance of this contract. The contractor may sub-contract a portion of the contract work to third parties with the prior written approval of the CSL. In this respect the contractor shall follow the recommended suppliers list of the CSL, forming part of the Technical Specification.

**REJECTION OF DEFECTIVE PLANT:**

If the completed plant, or any portion thereof, before final take over, is found to be defective or fails to fulfill the requirements of the contract, CSL shall give the contractor notice setting forth particular of such defects or failure and the contractor shall forthwith make the defective plant good, or alter the same to make it comply with the requirements of the contract. Should he fail to do so within a period of time as deemed reasonable by CSL and stated in the said notice, CSL may reject and replace at the risk and cost of the contractor, the whole or any portion of the plant, as the case may be, which is defective or fails to fulfill the requirements of the contract. However, such rejection/replacement by the CSL shall not absolve the contractor of any of his responsibilities under this contract.

For Cochin Shipyard Limited

  
24/01/23  
for Deputy General Manager (U&M)

Signature and Seal of the Contractor(s)

मिथुन एस  
MIDHUN S  
प्रबंधक / Manager  
कोचीन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd.  
कांचची / Kochi-682 015



**PRICE BID**

(In Indian Rupees)

Tender No. U&amp;M/MRS/024/T/22-23 dated 24.01.2023

Name of Work: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 20kWp ON-GRID SOLAR POWER PLANT FOR TWO-WHEELER EV CHARGING STATIONS IN CSL

Sl. No.	Description	Qty	Unit	Unit Rate	Amount	GST %	GST Amount	Total Amount incl. GST
1	Design and supply of 10kWp on-grid solar power plant on rooftop of existing parking sheds with Aluminium roofing as per technical specification. (70% of total amount)	2	Nos.			12		
2	Installation, testing and commissioning of 10kWp on-grid solar power plant on rooftop of existing parking sheds with Aluminium roofing as per scope of work. (30% of total amount)	2	Nos.			18		
TOTAL AMOUNT IN Rs.								
GST AMOUNT IN Rs.								
<b>TOTAL AMOUNT INCL. GST IN Rs.</b>								
Note: - In case of error in multiplication/addition in the amount calculated, the unit rate quoted will be considered as correct and the amount will be calculated accordingly. Individual lowest rate will not be taken for considering L1. The job being turnkey in nature, total amount including all taxes and duties will be the criteria for considering L1. Quotations without quote for any of the items will not be considered at all.								
I/we quote my/our lowest rate for the work for Rs. .... Rupees.....				Signature of Tenderer				
..... only including all taxes) and agree to complete the work as per the all terms and conditions indicated in the Tender No..... date .....				Date				
				Name of the Tenderer				
				Address / Seal				
				Contact No. / E-mail				

For Cochin Shipyard Limited


 Deputy General Manager (U&M)



## **UNPRICED BID**

(In Indian Rupees)

Tender No. U&M/MRS/T/024/22-23 dated 24.01.2023

**Name of Work: DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 20kWp  
ON-GRID SOLAR POWER PLANT FOR TWO-WHEELER EV CHARGING STATIONS IN CSL**

Sl. No.	Description	Qty	Unit	Unit Rate	Amount	GST %	GST Amount	Total Amount incl. GST
1	Design and supply of 10kWp on-grid solar power plant on rooftop of existing parking sheds with Aluminium roofing as per technical specification. (70% of total amount)	2	Nos.	QUOTED/ NOT QUOTED	QUOTED/ NOT QUOTED	12	QUOTED/ NOT QUOTED	QUOTED/ NOT QUOTED
2	Installation, testing and commissioning of 10kWp on-grid solar power plant on rooftop of existing parking sheds with Aluminium roofing as per scope of work. (30% of total amount)	2	Nos.	QUOTED/ NOT QUOTED	QUOTED/ NOT QUOTED	18	QUOTED/ NOT QUOTED	QUOTED/ NOT QUOTED
TOTAL AMOUNT IN Rs.					QUOTED/ NOT QUOTED			
GST AMOUNT IN Rs.					QUOTED/ NOT QUOTED			
TOTAL AMOUNT INCL. GST IN Rs.					QUOTED/ NOT QUOTED			
<b>Note:-</b> Strike out 'QUOTED / NOT QUOTED' which ever is not applicable. Quotations without quote for any of the item will not be considered at all.								

Signature and Seal of the Contractor

For Cochin Shipyard Limited

Deputy General Manager (U&M)

प्रबंधक / Manager  
मिडहून एस

कोचीन शिपयार्ड लिमिटेड

Cochin Shipyard Ltd.

Kochi - 682 015



**SPECIAL TERMS & CONDITIONS**

1. **Validity:** The offer should be valid for a minimum period of 3 months from the date of tender opening.
2. **Mobilization Period:** 7 days from the date of issue of work order.
3. **Completion Period:** The entire work should be completed and the system commissioned within 60 days after the mobilization period.
4. **Payment Terms:** Payment will be released in two parts against submission of invoice in triplicate as follows:
  - a) 70% of the supply value as per work order will be released after receipt and acceptance of the entire quantity of materials at Cochin Shipyard Limited.
  - b) Balance 30% of the supply value and 100% of the installation charges will be released after satisfactory completion of solar power plant installation, commissioning and acceptance by CSL.
5. **Security Deposit:** The successful bidder has to furnish a security deposit equal to 3% of the contract value within 15 days of receipt of the work order. This can be furnished in the form of Bank Guarantee from a nationalized bank as per CSL format/Demand draft drawn/ FDR endorsed in favour of Cochin Shipyard Ltd.
6. **Performance Guarantee:** The contractor has to guarantee the work for satisfactory performance against defective workmanship/ inferior quality of materials used for a minimum period of **TWO YEARS** from the date of commissioning of the system. Any defect developed during this period has to be rectified by the contractor at his own expenses. Towards the above guarantee, 3% of the order value (rounded off to next fifty rupees) deducted from the payment. The SD furnished by the contractor can be converted as performance guarantee based on request from the contractor.
7. **Liquidated Damages:** In case any delay in works beyond the stipulated completion period, the contractor has to pay Liquidated Damage (LD) a sum equivalent to ½ % (half percentage) per week or part of the week of the order value subject to maximum of 10% of the order value. In case of reasons attributed to CSL, i.e., site non-readiness, non availability of power shutdown etc., LD can be waived proportionately.
8. Any violation of Safety rules by the contractor, Safety department will impose penalty of Rs 1000/- to Rs 5000/- depending on the gravity of violation. Action for debarring the contractor also will be taken in case of repeated violation. Any accident caused due to safety violation and any damage to the company property suitable penalty will be imposed by CSL including termination of contract, if required.



9. **Transportation (to and fro)& storage clause** To and fro all materials under the scope of contractor. Loading, unloading and storage of all the material for the successful completion of all the materials is under the scope of the contractor.
10. **Quantity:** Quantities mentioned in the schedule of work are only approximate for arriving at L1 value. The quantity may vary based on the actual quantity erected and commissioned at site.
11. **Agreement:**
- a) The contractor has to execute an agreement in a stamp paper worth Rs. 200/- within 10 days of receipt of work order for execution of work.
  - b) The contractor has to execute an agreement in a stamp paper worth Rs. 200/- within 10 days after the successful commissioning of the solar power plants valid for five years warranty period as per CSL prevailing format.
12. Late tenders, tenders with conditions and conditional rebates/ discounts will be summarily rejected.
13. CSL reserves the right to reject any or all bids without assigning any reasons whatsoever and or based on the past unsatisfactory performance by the bidders at CSL/other PSE's/Government Departments. After issuing the work order, CSL reserves the right to terminate the contractor if the performance of the contractor is not found satisfactory. The decision of CSL regarding the same shall be final and conclusive.
14. Price bid (cover 2) of those contractors who have qualified technically and the undertaking that Cover 2 does not contain any conditions (Annexure 12) shall only be opened on a later date after giving notice to the qualified bidders. Contractor should ensure that his quoted amount as per cover 2 is not mentioned anywhere in other documents, directly or indirectly. If any such mention is made the tender will become invalid and shall become liable for rejection.
15. All relevant points of the General Terms and Conditions of Contract Rules of Cochin Shipyard Ltd. are applicable to this contract in addition to General HSE Guidelines, Security Instructions & IMS Guidelines.
16. The contractors are to be strictly follow the make and model number specified in the tender. However CSL has the right to make minor changes in the specification/make/model number based on the improvement in the technology.
17. The contractors are to strictly follow the make and technical details specified in the tender. However CSL has the right to make minor changes in the specification/ make/ model number based on the improvement in the technology.
18. The security of the items supplied is the responsibility of the contractor. Contractor has to make his own arrangement for keeping the items under safe custody. No storage space will be given by CSL.
19. Commissioning will be considered as completed when 20kWp SPV power plant has been interconnected to the LT bus of the local grid & duly tested and proven.



20. Contractor shall indicate duration of all activities in activity chart in conformity with the overall schedule of project completion. Contractor shall submit the activity chart in form of Bar Chart which shall be discussed and finalized with CSL and same shall form part of order for progress monitoring.
21. During execution of work, contractor shall ensure that a responsible person with authority to take decisions is available at site. Such person deputed by contractor shall report to CSL Officer - in-charge for smooth execution and timely completion of work. Contractor shall be responsible for any misconduct/indiscipline by his employees or sub contractor. Contractor shall abide by instructions of CSL Officer-in-charge as given in this regard. Contractor shall submit the manpower chart with hierarchy that would be deployed at site for daily progress monitoring.
22. Utmost care shall be taken by contractor during installation of supporting structure. Contractor has to ensure that under any circumstances no water leakage occurs inside the parking station due to puncturing of roof sheets.
23. Contractor should take all necessary safety precautions while working on roof top during installation & other work. Contractor should provide proper personal protective equipment & other safety equipment to his work team. Contractor should ensure that safety gear such as safety belts, roof/ safety ladder/s, safety helmets etc., are used by his work team at all times during execution of work.
24. **Language:** All documents, instructions, catalogues, brochures, pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries and any other data shall be in English Language.
25. **Termination of Services of Contractor's Personnel:** In the event any of the contractor or his sub-contractors, personnel, agents, sub-agents, assistants, or other employees shall be guilty of any misconduct or be incompetent or insufficiently qualified or negligent in the performance of their duties or it is undesirable for any administrative reasons for such person to be employed, the contractor, if so directed, shall immediately remove' such person or persons from employment for this project thereon. Any person or persons so removed shall not again be employed in connection with this contract without the written permission of CSL. Any person so removed shall immediately be replaced by a qualified and competent substitute at the contractor's cost and expenses. Should the contractor be requested to repatriate any person he shall do so and shall bear all costs and charges in connection therewith.
26. **Secrecy, Titles:** Maps, layouts and photographs of the unit/plant including its surrounding regions showing vital installation for national security of CSL country shall not be published or disclosed to the third parties or taken out of the country without prior written approval of the CSL and upon execution of confidentiality agreements satisfactory to the CSL with such third parties prior to disclosure.
27. The contractors shall have to sign in each page of the tender documents with official stamp as a token of his acceptance of the conditions stated therein.
28. The Contractor must perform the work so that it meets the requirements of the project and applicable design, construction and other standards of Indian Electricity Rules, Electricity Acts of Central and State Governments and good modern International & Indian engineering

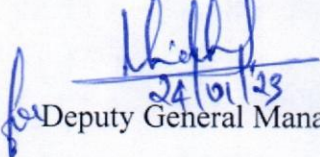


principles and practices, which are defined as those practices, methods, and equipment, in effect at the time of performance of the work that are commonly used in electrical utility engineering.

29. **Customs Clearance:** Customs clearance, if any, of imported equipment shall be the sole responsibility of the contractor and no documentation shall be provided by CSL in this regard. All costs and expenses including port rent, demurrage, and warfare charges are deemed to be included in the contract price.
30. All the materials used shall be got approved by the Engineer-in-Charge deputed for the work before being used for the timely completion of the project.
31. The work should conform to relevant IEA and CEA regulation wherever necessary/applicable.

**Note: Bidder shall see the General Terms and Conditions pertaining to above aspects for full clarity**

For Cochin Shipyard Limited

  
Deputy General Manager (U&M)

Signature and Seal of the Contractor (s)

मिथुन एस  
MIDHUN S  
प्रबंधक / Manager  
कोचीन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd.  
कोची / Kochi - 682 015



Tender No. U&amp;M/MRS/T/024/22-23

Date: 24.01.2023

**U&M DEPARTMENT**  
**GENERAL TERMS & CONDITIONS**

1. Bid shall be submitted in the prescribed form in the tender at the office of the Deputy General Manager (U&M), Utilities & Maintenance Department, Cochin Shipyard Limited, Perumanoor P.O, Kochi – 682 015, Kerala at the designated tender box.
2. In the case of tenders floated in news papers, all corrigenda, addenda, amendments and clarifications to tender specifications will be hosted in the website [www.cochinshipyard.in](http://www.cochinshipyard.in) and not in the newspaper. Bidder shall keep themselves updated with all such developments from CSL web site till the last date and time of submission of tender. However it is advised to contact the officer-in-charge of the work for any clarifications before the due date of the tender.
3. The bidders are expected to inspect the site to know the nature of work and site condition with prior intimation to the officer in charge. Bidders can contact officer-in-charge of the work which is indicated in the tender document for any clarification before submitting the offer.
4. The bidders are expected to familiarise himself labour situation, wages and benefits applicable to labours and working hours prior to quoting the rates. The submission of a bid by bidder implies that he has made himself aware of all the above situations and conditions. Any subsequent claim on this account will not be entertained.
5. All taxes, duties, transportation and insurance etc applicable should be included in the rate quoted, unless specified otherwise. CSL reserves the right for the deduction of taxes and duties as applicable from the bill or invoice.
6. Bidders to note that no advance payment will be made by CSL against work order/ supply order issued.
7. Tender documents issued are not transferable. Tender documents issued/downloaded shall be submitted wholly without altering any part.
8. The bidder shall not have been debarred / black listed by CSL or by any of the Public Sector Undertaking or Government department etc. Bidders shall produce a self declaration in this regard as indicated in the annexure 11.
9. Order dated 23<sup>rd</sup> March 2012, from Ministry of MSME, pertaining to Public Procurement Policy is applicable for this Tender. MSME bidders have the following benefits:
  - A. For all the Firms who are registered with District Industries Centre and come under the category of Micro & Small Enterprises holding a valid EM Part II certificate or Udyog Adhaar certificate, the following benefits are extended.
    - i. Tender forms shall be issued free of cost.
    - ii. Payment of Earnest Money Deposit (EMD) is exempted.
  - B. For all the Firms who are registered with NSIC and come under Micro & Small Enterprises holding a valid NSIC certificate, the below benefit is also extended in addition to 'A' above.



- C. Waiver of Security Deposit (SD) for the performance of the contract (10% of the order Value by the way of Bank Guarantee till the supplies are completed). However to ensure performance of the item during the guarantee period a Performance Bank Guarantee (PBG) (10% of the Order Value by the way of Bank Guarantee) to be submitted by the firm as applicable.
10. Bidders are to carefully go through the tender documents and shall agree to CSL terms and conditions, specifications, scope of work etc and quote their offer accordingly. All the pages of tender documents shall be signed and duly sealed by the bidder as a token of the acceptance of conditions stated therein.
  11. Bidders shall quote total amount in figures and in words. Corrections and additions if any must be attested/ duly signed by the bidder. In the case of error in multiplication/addition in amount calculated, the rate quoted will be considered as correct and the amount will be calculated accordingly. Conditional rebates & discounts, incomplete/ambiguous offers are likely to be rejected.
  12. Late bid will be rejected and CSL will not be responsible for any postal delay / non receipt of bid on any account of loss in transit.
  13. In case bidders are not in a position to quote for this work, the bidders are instructed to forward regret letter stating reasons. CSL reserve the right for not issuing future enquires for the firms who has neither quoted nor submitted the regret letter.
  14. Tender opening shall be carried out at the designated date and time as specified in the Notice Inviting Tender, in the case of single bid system. (Also refer clause 16). It may please be noted that, if any of the dates indicated in the tender notice is declared a public holiday, the dates shall be extended to the next working day.
  15. In case of two bid system, the techno commercial part alone will be opened initially on the due date of opening the tender. Bidders shall not be allowed to attend the techno commercial bid opening. The price part will be opened only after evaluation of the techno commercial part. Firms, whose techno commercial bids are acceptable, will be intimated regarding the date of opening of price part, so that they can be present during the price bid opening.
  16. Bids shall be submitted in two separate sealed covers.
    - In case of *single bid system*, the first cover shall contain Earnest Money Deposit and the second cover shall contain the tender documents. EMD, Tender reference and the cost of tender documents should be clearly indicated on the top of the respective covers.
    - In case of *two bid system*, the first cover shall contain the techno commercial bid part of the tender along with EMD, cost of tender form and supporting documents and second cover shall contain only the price bid part of the tender. Tender reference details shall be indicated on top of respective envelopes.
  17. Bids submitted without EMD (Except MSME firms having valid NSIC registration and certificate) will be rejected, if EMD is insisted in the tender. The EMD can be remitted either in the form of DD/Bankers Cheque /FDR drawn/ NSC in favour of Cochin Shipyard Ltd (with a minimum validity of 3 months from the date of tender opening). Cheques are not acceptable.
  18. No interest shall be paid for the EMD, Security Deposit or Performance guarantee.
  19. The price bids will be evaluated based on the lowest offer on the total amount excluding all taxes obtained from eligible and qualified as valid bids for opening the price bids. However the Officer-in- charge reserves all the rights to reject any or all tenders without assigning any reason.



20. During the evaluation of tender, officer-in-charge may seek clarifications from the bidders. Clarification if any shall be given in writing/e-mail. Officer-in-charge's decision will be final and binding on the bidder.
21. Any attempt on the part of the bidders or their agents to influence the officers, supervisors, employees of CSL in their favour by means of canvassing or any other means will entail disqualification / rejection of the bidder & bid.
22. Acceptance of a bid will rest with the competent authority, who does not bound himself to accept the lowest tender and reserves the right to reject any or all of the tenders received, without assigning any reason for the same.
23. CSL has the right to award work, part or in full to a single party or multiple parties as deemed fit. Also CSL shall have the right to issue work order & supply order separately.
24. Bringing in new conditions after the tender opening will not be allowed. Under no circumstances, will an enhancement of quoted rate be allowed, once the offer is accepted and an order is placed. Withdrawal of the quotation after it is accepted or failure to make the supply/execution within the stipulated delivery/completion period will entail cancellation of the order and forfeiture of EMD/Security Deposit, if any/ and or risk purchase.
25. EMD furnished by all the contractors except the lowest bidder, shall be released after concluding the contract and its acceptance by the contractor, to whom the work is awarded. EMD of the successful bidder shall be refunded after remittance of the security deposit and execution of the agreement or after the completion of the work.
26. If the contractor fails to supply or commence the work, in time as per the tender terms/work order, CSL shall have the following rights.
  - a) To terminate the contract within 15 days of notice forfeiting the EMD and security deposit.
  - b) To initiate alternative arrangements at the risk and cost of the contractors.
27. Cochin Shipyard Ltd. shall without prejudice to any right or remedy is at full liberty to forfeit the said EMD absolutely if the tenderer withdraws his tender before the validity period or makes any modifications in the terms and conditions of the tender which are not acceptable to CSL. After the issue of work order by CSL, failing /refusing to execute the agreement/ start the work, the tenderer shall be deemed to have abandoned the contract and such an act shall amount to and be construed as the contractors calculated and the willful breach of the contract, CSL shall have full right to take suitable action against the firm together with forfeiture of Earnest Money Deposit.
28. Unless and until formal agreement is prepared and executed, this tender together with your written acceptance thereof shall constitute a binding contract between the bidder and CSL.
29. Security deposit will be released only after attending all the defects pointed out to the contractor during the defect liability period. Any work which is not attended/replaced during the defect liability period within a reasonable time given by Officer-in-charge, the work will be carried out at the risk and cost of the contractor by CSL.
30. The normal working time of the CSL is from 8.15 A.M. to 5.00 P.M on all weekdays and Saturdays with half an hour interval from 12.15 noon to 12.45 P.M. All Sundays, second Saturday and fourth Saturday are holidays in addition to CSL declared holidays. The site will be available for work during office hours only. However if the Contractor wishes to carry out the work beyond normal working hours or on holidays, he



should get specific approval from the Officer-in-Charge for ensuring safety, quality and to have effective supervision from Department. For any specialized jobs the timings will be intimated by the officer in charge in special terms and conditions.

31. The contractor is expected to acquaint himself with the site conditions, labour situation, wage and benefits applicable to labourers, working hours, out turn of work by labour and the fluctuations which are likely to happen till the work is completed on all the above aspects prior to quoting the rates.
32. The work shall be inspected by the Officer -in-charge, his authorised representative or any other third party deputed by the Officer -in-charge. Officer-in-charge will have full liberty to impose penalties for the violation of any of the agreement clauses.

**33. General conditions on work part:**

- a. Cochin Shipyard Limited reserves the right to make minor alterations, additions or substitutions to the existing specifications/scope of work, if found necessary during the progress of work and the contractor is bound to carry out the work without any additional cost, as per such altered specifications.
- b. The contractor /authorized representative shall report at the office of the officer-in-charge on all working days before 08.30 hours and receive instruction regarding the works. The contractor should maintain all work instruction register; attendance registers etc. and should follow instructions given by the officer in charge.
- c. Time is the essence of contract. The Contractor may have to work round the clock including holidays, if required for completing the work in time without any extra cost. However works executed beyond office hours & holiday must be informed to the officer -in-charge well in advance and obtain his clearance and other necessary work permits.
- d. The completion of work may entail working in monsoon period/ rainy season also. The contractor shall take such events into consideration while quoting for the work. The contractor must maintain sufficient labour force for the timely completion of work as per the prescribed schedule. No extra rate will be admissible for work in monsoon/rainy season. During monsoon and other period, it shall be the responsibility of the contractor to keep the work site free from water at his own cost.
- e. All labour, skilled or unskilled shall be provided by the contractor. Settling any dispute with the labour, subcontractor, labour union shall be the sole responsibility of the contractor. Workers engaged for works should have sufficient knowledge and experience in the respective fields.
- f. The contractor should take insurance for the men and materials till the handing over of the entire system to CSL. The contractor is bound to meet the expenses or defense of any action of legal proceedings that may be brought by any person for injury sustained owing to neglect of safety precaution and to pay damages and costs which may be awarded in consequence as per rules in force. It is the responsibility of the contractor to ensure that workmen engaged in the work should wear safety appliances like helmet, safety shoes, safety belts etc. and should strictly comply with CSL Safety Rules and Regulations in vogue. For obtaining entry permission of workmen into the company premises, the contractor has to furnish the identity proof of those persons to be engaged [Passport/Electron Identity card etc] .If required, police clearance certificate shall also be submitted. They should carry / display the pass issued by CSL authorities during the entire span while in CSL. The contractor has to abide by all relevant Labour Regulations and enactments as applicable to the contractor and his/their workmen and as amended from time to time without causing or claiming any responsibility or liability thereof to the company.



- g. The workmen are strictly banned from use of any kind of Narcotics drugs / Alcohol /smoking etc inside CSL and any illegal activity by the work men should be reported to the officer-in- charge without delay and the contractor shall remove such persons from CSL premises.
- h. The contractor should furnish their registration code, ESI/PF code numbers issued by competent authorities if any. The supporting documents for the same may have to be submitted to CSL in the event of requirement. CSL reserves the right for the deduction of ESI/PF from the bill or invoice, if required.
- i. The contractor shall be responsible for the true and proper setting out of the works and for the correctness of the position, levels, dimensions, and alignment of all parts of the works and for the provision of all necessary instruments, appliances and labour in connection therewith. If at any time during the progress of the work any error shall appear or arise in the position, level, dimension or alignment of any part of the work, the contractor on being required to do so by the Officer in charge, shall at contractor's cost rectify such errors to the satisfaction of the Officer in charge. The checking of any setting out or of any line or level by the Officer in charge shall not in any way relieve the contractor of his responsibility for the correctness thereof. The contractor shall provide all necessary instruments, appliances and labour required for the Officer in charge for checking, if any, of the setting out.
- j. The work is to be arranged without affecting normal functions / activities at the shops / buildings / premises and to other agencies engaged in that area where works are to be carried out and shall be arranged with minimum hindrances. The work shall be carried out without damaging any of the existing structures/structures under construction/ underground pipelines or cables etc in the locality. If any damage occurs to the CSL property, by the contractor's operation shall be compensated / made good at contractor's risk and cost to the satisfaction of the officer-in-charge of the works, failing which department will do the rectification work and the cost incurred will be recovered from contractor's bill or from security deposit. If contractor fail to clear the dispose/items, CSL is having the right to cleaning the premises and cost involved for the cleaning will be deducted from the contractor's bill.
- k. If slabs/ chequered plates are to be opened during the work by the contractor, the same has to be closed by the contractor immediately after completion of the particular area of work. Proper caution boards & barrier with fencing tape shall be provided by the contractor at opened RCC trenches/mud excavated trenches before the commencement of work, at their own cost. Suitable staging should be provided by the contractor in areas wherever necessary at their own cost.
- l. The entire work should be carried out to the satisfaction of the officer-in-charge of the work. Decisions of the officer-in-charge will be final and binding to the contractor.
- m. All the materials should be approved by the officer-in-charge before being used. Rejected materials/items should be taken back by the supplier at his own cost.
- n. The workmanship shall be as per industrial standard in every respect both for the equipment supplied and for the installation carried out. The work should confirm to relevant Indian standard specification / Indian Electricity Rules (ISS / IER) / Central Electricity Authority (CEA) regulation 2010 / other relevant rules wherever necessary/ applicable.
- o. Necessary power shut down and permit-to-work has to be obtained from competent authorities whenever required to avoid electrical hazards and related accidents.




- p. Arrangement of all necessary accessories shall be carried out by contractor for successful completion of work even though not specifically mentioned in the tender/ order. All tools, tackles, accessories and other materials brought into Shipyard for the work shall comply with statutory requirements.
  - q. Necessary storage space will be provided by CSL as per the prevailing rules subject to the availability of space. If not, contractor has to make necessary arrangements outside CSL premises at his own cost and risk.
  - r. Electric power for the work will be given to the contractor from nearest available CSL outlet at free of cost subjected to availability and if not, the contractor has to make own arrangement at their cost. Uninterrupted power supply Electric power supply cannot be ensured from KSEB grid. Contractors shall take note of this situation and if required, contractor has to arrange alternative source at their cost for completing their work on time.
  - s. All statutory requirements are to be followed by the contractor. Packing material used if any should be eco-friendly.
  - t. The contractor has to abide by the Contract Labour Act 1970 and rules there under and Kerala Contract Labour Rules 1974 and the CSL safety rules and regulations. It is the responsibility of the contractor to follow all safety rules and regulations in force, during the period of contract in CSL, and any violation of the same during the course of work will be at the risk and cost of the contractor and will attract penal action.
  - u. Necessary "Work in progress" boards shall be provided by the contractor at locations shown by the Officer-in-charge.
  - v. The contractor shall make arrangements for collection, preparing, forwarding and testing of samples at his cost as directed by the Officer-in-charge. The charges for testing to be borne by the contractor.
  - w. Electrical connections issued to the Agency will be exclusively for their own use and any power sharing with other agencies shall be totally under the risk and cost of the agency to which power supply is allotted.
34. CSL had implemented Integrated Management System (IMS) consisting of Environmental Management System (EMS), Occupational Health & Safety Management System (OHSMS) and Quality Management System (QMS) within the yard. As part of implementation of IMS, contractor shall comply all the IMS guidelines indicated in the Annexure IX.
35. Bidders shall follow the security instructions enclosed in Annexure X.
36. Force Majeure Condition: Should failure in performance of the contract or part there of arise from war insurrection, restraint imposed by Government, Act of Legislature of other statutory Authority or illegal strike (event like local strike/ harthal etc in the yard, state or national), riot legal lock out, flood, fire, explosion, Act of God of any inevitable or unforeseen beyond human capacity which may be constructed as reasonable ground for an extension of time. CSL may allow such additional time as is mutually agreed, to be justified by the circumstances of the case. The occurrence/ cessation of force majeure situation is to be informed with documentary evidence within 15 days from the date of occurrence or cessation.
- 39 Tax elements
- a. The tax rate of the goods and services would be as per the Govt of India published GST rate schedule for goods & services. The rates have been mapped with HSN & SAC in the rate notification issued by the government. The rate schedule should be referred to identify the applicable rate.



- b. Permanent Account Number (PAN) obtained from Income Tax Department should be mentioned in the invoice for inclusion of PAN in the TDS returns filed by CSL.
- c. GST ID should be mentioned.
- d. The invoices should be as per the provisions of GST law. The invoices should mandatorily contain the HSN code/SAC and GSTIN number along with other particulars. The GST charged (CGST & SGST or IGST) should be separately indicated in the invoice.
- e. Tax inclusive invoices will not be accepted.
- f. All correction/rectification in the invoices should be done through Debit note/ Credit note only.
- 40 A "No claim certificate" from the workers engaged in the prescribed format should also be submitted by the contractor along with the final bill furnished for payment. Payment shall be made by RTGS/NEFT to the account of contractor. The name of the bank, A/C number, IFSC code and other particulars shall be furnished by the contractor in the proforma of CSL.
- 41 Any disputes or differences arising under, out of, or in connection with the contract shall be subject to the exclusive jurisdiction of courts at Ernakulum, Kerala, India.

For Cochin Shipyard Limited

  
24/01/23  
for Deputy General Manager (U&M)

Signature and Seal of the Contractor (s)

मिथुन एस  
MIDHUN S  
प्रबंधक / Manager  
कोचीन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd.  
कोच्ची / Kochi - 682 015



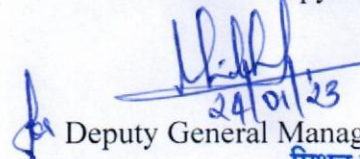
Tender No.: U&amp;M/MRS/T/024/22-23

Date: 24.01.2023

**TECHNO - COMMERCIAL CHECK LIST**

SL. No.	Description	Compliance		Remarks or Deviation if any
		Yes	No	
1	Whether technical bid & price bid are submitted in separate sealed covers?			
2	Schedule of work as specified in technical specification/ price bid of this tender is acceptable			
3	Completion period as mentioned in the tender enquiry is acceptable			
4	Payment terms as mentioned in the tender enquiry is acceptable			
5	General working of the system will be proved to the satisfaction of CSL before signing of the commissioning report			
6	Warranty clause as demanded by CSL is acceptable.			
7	A copy of price bid (with price part blanked) to be included in the techno-commercial offer is furnished with the Techno-commercial bid			
8	Are you fully agreeable to furnish Security Deposit/Performance guarantee as per terms and conditions?			
9	LD payable as per relevant clause in the special terms and conditions of enquiry is acceptable			
10	Disputes in connection with contract subject to jurisdiction of courts at Ernakulam, India, is acceptable			
11	Willingness to come to Cochin for techno-commercial or price negotiation if found essential by CSL			
12	Termination of contract/ risk purchase as per relevant clause in the terms & conditions of tender enquiry is acceptable			
13	100% turnkey job as explained in the detailed tender specification is conceived in its full meaning and the same is acceptable without any deviation.			
14	Detailed technical brochures/catalog/test certificates etc. of relevant sub-units are submitted along with the offer.			
15	Confirm all other special, general terms and conditions of tender are acceptable			
16	Necessary training/documents after commissioning will be provided.			
17	Offered items are meeting to the minimum specification declared by CSL and are the latest proved version/model only.			
18	Fully aware about the safety, general rules, regulations, standards, validity of offers and price, entry pass eligibilities.			

For Cochin Shipyard Limited

  
 Deputy General Manager (U&M)  
 मिथुन एस  
 MIDHUN S  
 प्रबंधक / Manager  
 कोचिन शिपयार्ड लिमिटेड  
 Cochin Shipyard Ltd.  
 Cochin - 682 015

Signature and Seal of the Contractor (s)



Tender No.: U&amp;M/MRS/T/024/22-23

Date: 24.01.2023

**SECURITY INSTRUCTIONS & I.M.S. GUIDELINES****1.0.0. SECURITY INSTRUCTIONS:**

- 1.1.0. Cochin Shipyard Limited is an ISPS Code compliant Port Facility and is required to maintain the Security Level declared by the Government of India from time to time. The premises of Cochin Shipyard Limited are a 'Prohibited Area' under the Official Secrets Act. All contractors and their personnel are bound to comply with the security instructions/ orders of the Shipyard issued from time to time.
- 1.2.0. All contractors and contract workmen should have valid entry pass issued by CSL or accepted as equivalent by CSL and they shall enter the yard through Sannidhi Gate.
- 1.3.0. All movements of all persons entering through Sannidhi Gate should be recorded in the Access Control System at the Gate.
- 1.4.0. 100% checking and frisking of all contractors/contract workmen entering into the yard will be done.
- 1.5.0. All vehicles entering CSL shall have vehicle entry pass either conspicuously exhibited on the vehicles or endorsed in the entry pass. Vehicles carrying materials shall have material entry pass. Such material carrying vehicles shall be permitted entry to the Factory Area by the Blue Security or production of material pass. All contractors and their workmen shall keep personal vehicles in the parking area near Sannidhi Gate.
- 1.6.0. All persons engaged for various works in CSL through contractors should produce the following documents prior to issuing their entry passes:
  - 1.6.1. Attested copy of any of the documents mentioned below:
    - i. Photo identity card issued by government bodies
    - ii. Electoral identity card with clear photo and address particulars
    - iii. Driving license with photo and address particulars
    - iv. Passport/ attested copy of passport with photo and address particulars
    - v. Police clearance certificate with photo and address particulars
  - 1.6.2. No person above 58 years shall be permitted entry into the yard for any work except otherwise specially permitted by the Occupier of the factory.
  - 1.6.3. Police clearance certificate of not less than six months old to the effect that the concerned person is staying in the area of jurisdiction of the certificate issuing Police Station and the person is not involved in any criminal offences as per the records available therein.



- 1.6.4. Application and declaration for enrolling under Employees Provident Fund ESI Scheme, three passport size photographs of the individuals and two copies of family photographs of the members.
- 1.6.5. Safety Awareness Programme attendance certificate issued by CSL.
- 1.6.6. Medical Fitness Certificate by any Registered Medical Practitioner in the prescribed format.
- 1.7.0. Mobile phones with camera are strictly prohibited inside the Shipyard. No contract workmen shall use mobile phone at Factory Area.

#### **2.0.0. I.M.S. GUIDELINES**

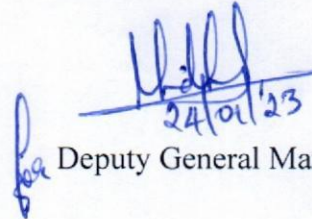
- 2.1.0. CSL implemented an Integrated Management System (IMS) consisting of Environmental Management System (EMS), Occupational Health and Safety Management System (OHSMS) and Quality Management System (QMS) within the yard. As a part of implementation of IMS, contractors shall comply with the following measures related to Quality, Health, and Safety & Environment (QHSE) Policy of CSL.
  - 2.1.1. Meeting or exceeding customer requirements.
  - 2.1.2. Assuring quality of product and service.
  - 2.1.3. Preventing occupational ill health & injuries.
  - 2.1.4. Ensuring safe work sites.
  - 2.1.5. Conserving natural resources.
  - 2.1.6. Preventing/ minimizing air, water & land pollution.
  - 2.1.7. Handling and disposal of hazardous wastes safely.
  - 2.1.8. Complying with statutory & regulatory and other requirements.
  - 2.1.9. Developing skills and motivating employees.
- 2.2.0. Occupational Health, Safety & Environmental requirements of CSL shall include the following.
  - 2.2.1. The contractor (or a sub- contractor performing work on behalf of the contractor) is deemed to comply with the occupational health, safety and environmental policy of the company and also to all operational controls/standard operating procedures and shall undertake the work in total compliance with the requirements of the established integrated management system (IMS) of the company.
  - 2.2.2. The contractor shall undertake the work in total compliance with all applicable legal /statutory requirements related to occupational health, safety and environment effective in the state of Kerala.
  - 2.2.3. It is the sole responsibility of the contractor to assure that any subcontractors who shall perform works in company lands/facilities/worksites on behalf of the contractor, is also following all requirements related to the integrated management system of the company and the health/safety/environmental rules effective in the state.
  - 2.2.4. The contractor shall provide/implement and operate/practice all occupational health, safety and environmental management measures/facilities for their period of contract, in their activities/at their



work sites, which shall be required according to the IMS of the company or that required by the health safety environmental rules established and effective in the state, at their own cost.

- 2.2.5. If any contractor failed to comply with or violated any clauses/requirements of occupational health, safety and environmental rules effective in the state, in their activities or at work sites and the same shall be exposed to the government or any competent authorities upon inspections, the contractor shall solely responsible for all liabilities caused by his/her action and shall be responsible for paying the penalty and taking the stipulated corrective actions insisted by the authorities within the specified time, at their own cost. Any liability to the company in this regard needs to be compensated by the contractor.
- 2.2.6. Upon the completion of the work, contractor shall clear the area and shall not leave any occupational health/safety/environmental liabilities to the company, from their activities at the worksites.
- 2.2.7. Any clarification related to IMS requirements of the yard, may be obtained by the contractor from the authorized representative of the contract, prior to the commencement of work.

For Cochin Shipyard Limited



Deputy General Manager (U&M)

Signature and Seal of the Contractor (s)

मिथुन एस  
MIDHUN S  
प्रबंधक / Manager  
कोच्चन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd.  
कोच्ची / Kochi - 682 015



Tender No.: U&amp;M/MRS/T/024/22-23

Date: 24.01.2023

**GENERAL SAFETY RULES**

1. These safety rules have been promulgated for the guidance of the contractors. These rules in no way relieve a contractor from his obligation under various statutory rules and regulations.
2. The Contractor before starting any work in the CSL premises will be issued with these rules and he is expected to give a declaration that he receives one copy of the CSL Safety Rules for Contractors and will comply with the rules laid therein.
3. CSL reserves its right to suspend work in the event of the contractor not complying with the rules of instructions with regarding to safety practices for which no claim of any kind will be entertained.
4. To ensure the safe conduct of safety operation a representative of the contractor should maintain appropriate contract with the Officer-in-charge of the work as may be necessary to acquaint himself with any changed conditions of matters relating to the safety performance.
5. All regulations codes and ordinance of the Government of Kerala, and local Municipal, Corporation regarding safety will be applicable to the contractors.
6. The principal contractor is responsible for observance of these rules by his sub- contractors. Only employees acceptable to CSL should be employed for the operation of any type of equipments. Contractor's employees should not enter the areas where the nature of contracted work does not require their presence.
7. All accidents occurring to contractor's personnel must be reported promptly and immediately by the contractor or his agent to the Chief Safety Officer (Indl. Relations) in addition to the Officer-in-charge of the work and this should be followed by an incident/ accident report in the form prescribed by the company. In case of electrical accidents, report should be made in accordance with Rule 44 Annexure of Indian Electricity Rules 1956 and the form shall be in accordance with Annexure XIII to the Indian Electricity Rules 1956. The report should be furnished to the Resident Electrical Engineer within 8 hours of occurrence of electrical accidents immediately on occurrence of electrical accident; the operator in the Main Receiving Station should be informed on the phone and necessary instructions taken from him.
  - a) The contractor should ensure that they are complying with all the regulations under the Indian Electricity Act and relevant rules when they consume electricity.
  - b) All power cables shall be armoured cables.
  - c) HRC fuses should be used in all fuse/ switch fuse units.
  - d) Double earthing shall be provided to all equipments, switch boards, etc.
  - e) Overhead power lines are to be restricted to the minimum possible and should be attached to a GI Guy wire by means real insulation.
  - f) No wire carrying electrical current is to be laid on the working floor areas.
  - g) Surplus wire kept bundled at the end of supply line shall be neatly done and secured properly.
  - h) Earthing points should not be extended by looping.
  - i) Electrical insulations, wiring etc. are to be got done only through a licensed electrical contractor holding valid license issue by the electrical inspector of Kerala.
8. Electric switches or circuits, unless wholly owned solely used by the contractor should not be opened or closed unless authorized by the Officer-in-charge of the CSL.



9. The storage, handling and use of hazardous materials must be approved by the S&F Department.
10. The contractor should be responsible for the cleanliness of the job site.
11. The contractors should take precautions to prevent tripping hazards caused by hoses and welding lines etc.
12. The contractor should ensure that adequate fire extinguishing arrangements are provided for their requirements.
13. Contractor's workmen should obey all signs and special rules regarding smoking and fire prevention.
14. In the event of fire the contractors should inform the control room (through 1300 or 9895788285), at once giving the exact location and nature of fire. At the same time he should start operations to extinguish or control the fire until assistance arrives.
15. Where property is exposed to the hazards of fire, open fires will not be permitted.
16. Gas or oil fired heaters must not be placed close to the inflammable material. Their burners must be adjusted and maintained so that there is no risk of accidental fire nor of the omission or smoke or fumes.
17. Inflammable liquids must be handled in safe cans or containers approved by CSL and shall be stored, in the locations acceptable to CSL. All such containers must be clearly labeled.
18. Tarpaulin used should be flame proof type.
19. The area beneath overhead work should be "roped off and signs" Danger. Man working above should be placed to warn the men moving below.
20. Excavation should be protected by adequate covering and visible warning lights should be placed both during day and night to warn approaching traffic. Precautions should be taken to prevent "cave-ins" of the excavations.
21. Proper and adequate timber shoring and bracing should be provided to prevent sliding or slipping of loose or unstable soil, rock or other materials.
22. Under cuttings or trenches and other excavations should be avoided.
23. Excavated materials should be put away from the edges of the excavated trench to avoid slipping of the excavated materials into the trench.
24. The contractors working in man holes or pits below the ground level must acquaint himself and advise his employees of the hazards of gas or liquid level and take proper precautions.
25. Open manholes must be protected by adequate barricade. Man hole covers should be replaced promptly when work is suspended.
26. Only qualified employees under the supervision of a qualified supervisor should be allowed to use oxy-acetylene equipment.
27. Cylinders should be secured in upright position.
28. Electric welding should be done only by qualified welders under the supervision of qualified supervisor.



29. Welder should use adequate personal protective equipments while working.
30. Arc welding should be done only after shielding the location.
31. Arc welding equipments should be properly earthed. While welding it should be ensured that no equipment forms part of the ground return. Ensure the ELCB is fitted on all the welding machines. All portable electrical equipments including switch boards must be fitted with ELCB. Ensure Voltage Reducing Devices (VRD) (safety relay) is fitted on the AC welding transformers.
32. Contractors should ensure that First Aid boxes are provided at work spot and should ensure proper medical care of injured persons.
33. Contractors should ensure that all the employees are equipped with proper protective equipments for the work they are entrusted with.
34. All the employees of the contractors should wear approved safety helmets, safety shoes, and cotton working dress in CSL work site.
35. When contractor's employees are exposed to the movement of cranes, the contractor's supervisor should consult with the Officer-in-charge before sending his men on the job.
36. When contractor's employees are exposed to the movement of cranes he should provide a watchman for the protection of his employees.
37. Only qualified and authorized employees should be allowed to operate the mobile cranes and other hoisting equipments.
38. Only qualified and authorized persons should be allowed to drive the vehicle in the yard.
39. All traffic rules, signs and speed limits must be observed by all the employees of the contractor.
40. Contractors should not park their vehicle in such a way as to be a hindrance to the smooth flow of traffic in the yard.
41. While working at heights adequate scaffolding or staging should be used.
42. While working at heights the workman should wear full body harness with adequate life lines.
43. Scaffoldings should be of a sound material securely fastened and should be capable of supporting 4 times the combined weight of men and material who may be working on them.
44. Guarding and the boards should be installed in all scaffolding which is 10" or more in height.
45. Workmen in charge of working squad are responsible for the safe loading and use of ropes, chains, cables slings, jacks, skids and other hoisting and lifting apparatus. In no case such equipments should be used unless and until the man in charge is satisfied that it is free from defects and are safe for use.
46. Before operating cranes, derrick or hoist or hoisting equipment, the operator should sound a warning and he should accept signals only from one person for starting the work of raising, lowering and swinging loads.
47. The operator should stop immediately all operation on receiving signals from any one.

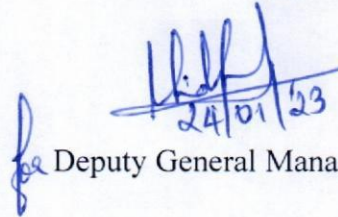


48. No workman should move near the cable under tension and within the angle formed by the ropes or cables.
49. When anyone is found in the danger zone the Hoist operator should never place tension on rope or cable.
50. Care must be taken to see that cable chains and other hoisting equipments are not unduly stressed by improper use.
51. All ropes, cables, chains, slings etc. should be discarded when they are worn out or deteriorated to the point where their safe use may be doubtful.
52. Chains and wire ropes should not be spliced and joined. New links should be inserted by competent persons. Wire ropes or cables should not be allowed to kink. When applying U bolts and clips to cables, adequate number should be used.
53. Hooks, rings and other fittings used on chains or cables should be of the carrying capacity higher than that of the chain or cable.
54. Natural and synthetic fiber ropes should be properly cared and the following precautions should be taken.
  - a) Rope should not pass over sharp edges; pads should be used to protect the fibers.
  - b) Rope should not be dragged on the ground unnecessarily using too small sheaves, should be avoided.
  - c) Rope should not be permitted to slip on which drum or moving drums.
  - d) Kinked ropes should not be used.
  - e) Do not tie knots where splices should be used.
  - f) Ropes should not be allowed to soak in oil and exposed to acid or other corrosive substances, they should wash and dried.
  - g) Ropes should not be allowed to expose to weather unnecessarily.
  - h) When drying excessive heat should not be used.
59. Adequate precautions should be taken during welding or gas cutting against hazards such as electric shocks, burns, fumes, fires, explosion and arc eyes.
60. Gauntlet gloves should be worn while glass cutting.
61. Outer cloth worn should be free from oil or grease.
62. Goggles or welder's helmets should be worn during welding.
63. Barriers should be erected to protect other persons in the vicinity from rays or electric arcs or welding flames.
64. Goggles should be worn while chipping the welding slag.
65. Adequate ventilation should be provided while welding or cutting in confined spaces.
66. When welding or glass cutting in elevated positions, precautions should be taken to prevent sparks of hot metal slag falling out to the people or to the flammable material below.
67. Before welding or cutting a pipe, tank or container, which carried flammable material, it should be thoroughly cleaned and gas freed and if necessary, 'Hot Work Certificate' from the controller of Explosive should be obtained.



68. Loitering around operating units is prohibited at all times.
69. Bringing intoxicants into the yard is strictly forbidden. Likewise entering the yard under the influence of intoxicants is an offence.
70. Jumping on off trucks, automobiles or other moving vehicle is prohibited. Men should wait until the vehicle stops before attempting to enter or leave.
71. In confined spaces workers shall be protected with air line respirators with tight fitting rubber, mask (especially for painting etc.).
72. It shall be considered hazardous to carry out gas cutting or welding work within 15-20 feet from the place where paint is being applied.
73. The following works to be done through "Permit to work- on installment"
1. Work at height/ fragile roof.
  2. Excavation/ Trenches opening
  3. Work on gas lines
  4. Work on crane track/ rail track
74. All Scaffolding more than 2m height to be certified by S&F Department before boarded to Scaffold.

For Cochin Shipyard Limited

  
Deputy General Manager (U&M)

Signature and Seal of the Contractor (s)

मिथुन एस  
MIDHUN S  
प्रबंधक / Manager  
कोच्चिन शिपयार्ड लिमिटेड  
Cochin Shipyard Ltd.  
कोच्चिन / Kochi-682 015



**UNCONDITIONAL ACCEPTANCE LETTER**

(Unconditional acceptance to be given by in letter head)

**ACCEPTANCE OF TENDER CONDITIONS**

1. Tender Document for Design, supply, installation, testing and commissioning of 20kWp on-grid solar power plant for two-wheeler EV charging stations in CSL, has been downloaded by me/us and I/We hereby unconditionally accept the tender conditions of tender documents in its entirety for the above work.
2. It is further noted that it is not permissible to put any remarks/conditions in the tender enclosed in "Cover No.2". I/We agree that the tender shall be rejected and ACCEPTING AUTHORITY shall, without prejudice to any other right or remedy, be at liberty to forfeit the earnest money deposit.
3. The required earnest money for this work is enclosed herewith.

Yours faithfully,

(Signature of the tenderer) with rubber stamp

Date: .....



Tender No. U&M/MRS/T/024/22-23

**UNDERTAKING BY CONTRACTOR**

Name of work: - **DESIGN, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 20KWP ON-GRID SOLAR POWER PLANT FOR TWO-WHEELER EV CHARGING STATIONS IN CSL**

1. "I / WE COMPLY WITH ALL CONDITIONS OF TENDER BY CSL AND CONFIRM THAT RATES QUOTED IN THE PRICE BID ARE INCLUSIVE OF ALL TAXES AND DUTIES INCLUDING SERVICE TAX IF APPLICABLE. I / WE ALSO CONFIRM THAT COVER-2 (PRICE BID) DO NOT CONTAIN ANY CONDITIONS".
2. "I / WE HAVE NOT MADE ANY PAYMENT OR ILLEGAL GRATIFICATION TO ANY PERSON/AUTHORITY CONNECTED WITH THE BID PROCESS SO AS TO INFLUENCE THE BID PROCESS AND HAVE NOT COMMITTED ANY OFFENCE UNDER THE PC ACT IN CONNECTION WITH THE BID."

**Signature:**

**Name & address of the contractor:**



## (Self declaration to be given by in letter head)

1. Reference No. & Date :
2. Bidder's Name & Address :
3. Person to be contacted :
4. Designation :
5. Telephone No. :
6. Fax No. :
7. E-mail :

**SELF DECLARATION**

We do hereby declare that we have not been debarred/black listed by CSL or by any of the Public Sector Undertaking or Government Department etc.

If CSL finds that, we have been blacklisted/de-barred by any of the Public Sector Undertaking or Government department, and then CSL can reject the offer or terminate the contract at any point of time. In such case, we are aware that, EMD, Security Deposit, Performance Guarantee etc. will be forfeited by CSL. Further we are confirming herewith that, any loss that has happened to CSL due to this will be compensated by us.

For and on behalf of the firm

(Firms Name & Address)

(Signature of Authorized Signatory)

Name :  
 Designation :  
 Phone No. :  
 Seal :  
 Date :  
 Place :