

**NATIONAL CENTRE FOR POLAR & OCEAN RESEARCH**

(An Autonomous Society under the Ministry of Earth Sciences)

Headland Sada, Vasco-Da-Gama, Goa 403 804.



**TENDER NO: NCPOR/EST/EE/01/20-21**

**Name of The Work: Upkeep And Maintenance of Electrical Systems & Allied Work at NCPOR, Goa.**

**TENDER DOCUMENT**

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## Notice Inviting Tender

National Centre for Polar and Ocean Research, Goa invites sealed tender for :-Upkeep and maintenance of Electrical Systems at NCPOR, Goa from the eligible contractors of Government/PSU/ Reputed Organizations. Interested bidders can download the tender documents from web site <http://www.ncpor.res.in> or Central Public Procurement portal <http://eprocure/epublish.gov.in>. Last date of submission of bid is 14.01.2021 at 11.00 Hrs.

**TENDER TERMS AND CONDITIONS**

1. The Director, National Centre for Polar & Ocean Research (NCPOR), Goa invites sealed Tenders in one cover for the work of Upkeep And Maintenance of Electrical Systems & Other Related Operational Work at NCPOR, Goa. from the eligible Electrical Contractors of Government/PSU/Reputed Organizations. The eligibility criteria is as below.
2. Eligibility Criteria:- The bidder should have,
  - (a) Valid Class-1 Electrical Contractor's Licence of at least 11kV on his name, issued by a Competent Licensing Authority of Electricity Department of Government of any State/UT.
  - (b) Executed at least one single Annual Maintenance Contract (AMC) in electrical work amounting not less than Rs. 50 lakh per annum Or two AMC in electrical work amounting not less than Rs. 40 lakh per annum Or three AMC in electrical work amounting not less than Rs. 30 lakh per annum, of any Govt/PSU/reputed organization, company during last seven years ending December 2020.
  - (c) Latest solvency certificate of at least Rs. 14 lakhs issued by the bank.
  - (d) The Contractor should have his office in Goa.
  - (e) Registration of EPF
  - (f) Registration of ESI
  - (g) GST Registration
  - (h) PAN number
  - *The bidder should fulfill all above eligibility criteria to become eligible for participating in this tender.*
  - *Self attested copies of all above documents should be enclosed. The original documents should be presented for verification as & when asked.*
  - *The bidder who has been terminated or blacklisted from any organization is not eligible.*
3. The Contract period is initially for one year extendable on yearly basis for a further period of two years on the same Rates, Terms & Conditions of the agreement based on the satisfactory performance as assessed by NCPOR.
4. Rates & While quoting rates for manpower, the bidder should strictly consider Minimum Wages regulations as per the prevailing Government of India Labour Laws, ESI, EPF, Bonus Rules & other regulations.

*After award of Contract, the Contractor will have to submit Bank a/c statements of previous month of all staff for the monthly bill payment. The Contract is liable for termination if it is observed that payment made is less than the prevailing 'Minimum Wages' as prescribed by Ministry of Labour & Employment.*
5. Entire tender document (signed and stamped on all pages) should be submitted in a sealed cover, super scribed with the tender number & name of the work, date and time of opening. **Tenders will be received up to 11.00 a.m. on 14.01.2021 and will be opened at 11.30 a.m. on the same day.** Tenders should be dropped in the tender box kept in the Estate Section before the closing date and time. In case Tenders are sent by post/courier it should be addressed to **The Director, NCPOR.** Tenderers are to ensure that they post the tender well in advance so as to reach before the closing time and date. NCPOR is not responsible for any postal/transit delay. If the Tender Opening day happens to be a holiday then tenders will be opened on the next working day on the same time.
6. The Earnest Money Deposit (EMD) : EMD is **Rs. 1,75,000/- (Rupees One Lakh Seventy Five Thousand only)** in the form of a Demand Draft from any schedule bank, drawn in favour of **Director, NCPOR, payable at Vasco-Da-Gama, Goa** should be enclosed with the tender documents. EMD of a successful bidder will be converted in to security deposit & EMD DDs of unsuccessful bidders will be returned as it is. **Tender received without EMD will be rejected outrightly.**

7. It is mandatory to quote all items of the price bid. If all items are not quoted then tender is liable for rejection.
8. NCPOR does not bind to accept the lowest or any tender and reserves the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted.
9. Tender submitted shall remain valid for 90 days from the date of opening for the purpose of acceptance and award of work. The extension of validity beyond 90 days from the date of opening shall be by mutual consent.
10. The Tenderer shall quote rates both in figures and words against each item in English language only. Correction, cutting, omission, overwriting should be avoided. However even if any correction is made, it should be endorsed with signature. Use of correction fluid is not allowed & should be strictly avoided.  
On checking if there are differences noticed between the rates quoted by the tenderer in words and figures or in the amount worked out by him, the following procedure will be followed: (A).If there is a difference between the amount of rate in figure and in words of an item, and the total amount is worked out, then the rate which corresponds to the amount worked by the bidder shall be taken as correct. (B).If the bidder has not worked out the amount of an item, or the same does not correspond with the rates written either in figures or in words, then the rate quoted by him in words shall be taken as correct. (C).If the rate quoted by the bidder in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the bidder shall be taken as correct and not the amount.
11. Before submission of tender, interested bidders should inspect the site to acquaint himself about the condition in regard to accessibility of site, nature and extent of ground, working condition of site and locality including stacking of materials, installations of tools and plants etc., conditions affecting accommodations and movement of labour etc. required for the satisfactory execution of work contract. Accordingly bidders should submit duly signed & stamped Tender Submission Letter (Annexure 6 XI) on their Firm's/Company's Letter Head. No claim whatsoever on such account shall be entertained later by NCPOR under any circumstances.
12. Except writing rates and amount, the tenderer should not write any conditions or make any changes, additions, alterations and modifications in the Price bid of the tender. Tenders with conditional prices will not be considered.
13. To assist the process of examination, evaluation and comparison of the tender, NCPOR may ask the bidder individually for clarification if so required.
14. In the event of any tenderer withdrawing/modifying his tender during the validity of tender, EMD of such bidders will be forfeited.
15. Successful bidder should commence the work within 15 days from the date of issuance of Work Order, failure of which the Earnest money will be forfeited.
16. Director, NCPOR reserves the right to accept or reject any or all bids in full or part, or the right to not to accept lowest offer without assigning any reasons thereof, whatsoever. In case of any dispute, decision of Director, NCPOR shall be final and legally binding on the bidders.

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### SCOPE OF WORK

The scope of work under this contract shall include "Upkeep And Maintenance of Electrical Systems & Other Related Operational Work at NCPOR, Goa". The quantities indicated are approximate and may vary at the time of execution. NCPOR will exercise absolute discretion for operating all or some items of the schedule. The Contractor shall provide all necessary consumable materials, equipment, labour etc. for the execution and maintenance of the work till completion unless otherwise mentioned in this tender document. All materials required for the work shall be as per technical specifications and approved by Engineer-in-Charge prior to procurement and use.

**I) Areas falling under this contract shall be as follows:** The area under this scope of work shall be the entire NCPOR campus including the following major buildings & areas,

- a. Main Building
- b. Auditorium Building
- c. Fellows Lab Building
- d. Laboratory Block Building
- e. Hostel Building
- f. Staff residence buildings
- g. Electrical substation
- h. HVAC plant
- i. Canteen Building
- j. Container yard Building (under construction)
- k. New Polar Lab Building (under construction)
- l. Main Gate etc. & the other area/land within the NCPOR campus

**II) Contractor's Scope of Work:**

- a) In brief the work will include operation & maintenance of electrical installation, such as electrical, communication, fire alarm & network wirings, light fittings, ceiling fan, exhaust fan, wall mounting fans, electrical panels, busbar, street lighting system, garden light, parking light, electrical feeder pillar, telephone feeder pillar, earthings etc. available in the sector area. Any used or damaged consumables/fittings/parts have to be replaced and the contractor shall at all points of time on all days be alert and be prepared to carry out any repairs and rectification.
- b) Periodic cleaning & checking of electrical panels, busbars, feeder pillars, earthing points etc. shall be in the scope of contract.
- c) Maintaining records of work as instructed.
- d) Providing technical manpower as per the requirement of NCPOR.
- e) All works to be carried out in accordance with relevant Indian Standards and as per Indian Electricity rule as amended.
- f) Contractor will ensure consistency of work and work force, correct trouble shooting, good workmanship, follow all safety procedures and will make all necessary efforts to maintain healthy environments and reliable services.
- g) It is purely contractor's responsibility to get his staff acquainted with the site condition, operation and maintenance procedure, equipment detail, safety devices, scope of work etc.
- h) Contractor should make payment to his all staff as per the guidelines provided in the tender as per Minimum Wage Act.
- i) The scope of works covers supply of skilled/unskilled workers with tools and plants required to resolve the complaint.

Types of works covered under this service of the contract shall be as follows:

**(A) Maintenance of Electrical HT 11 KV & LT 11 KV/ 440 V Substation – 01 No.**

1. Daily maintenance of the HT 11 KV & LT 11 KV/ 440 V Substation for 24 hours by employing round the clock at least one qualified electrician and at least one Junior Electrician (in addition one supervisor shall look after the daily routine work during office hours on all days including major break down if any, even at off hours).
2. Substation shutdown maintenance.
3. Routine daily check of the safety relays.
4. Maintaining a daily logbook on the performance of the system.
5. Maintenance of the HT Switch gears and LT Switch gears.
6. Maintenance of HT Breaker VCB / ACB.
7. Maintenance of the HT 6 11 KV double pole structure. (Proper greasing once in a month, for double pole structure)
8. Monitoring of the capacitor 6 bank panel.
9. Monitoring and maintenance of all electrical outlets and fittings at all the NCPOR buildings (pump house, Administration block, laboratory block, Fellows lab, Auditorium, temporary shades etc within the campus) and Residential Quarters etc in NCPOR campus.
10. Meter readings of the sub-station as well as Residential Quarters and the water reading of the campus per day/ month and submitting to the concern Engineer-in-charge.
11. Any type of electrical work in NCPOR office (pump house, Administration block, laboratory block, Fellows lab, Auditorium, temporary shades etc within the campus) as well as residences of NCPOR Campus to be attended as and when required without any delay.
12. Maintenance of Bore wells and Pumping of water to the over head tank in the office and at the residence as well as for the lawns and plantation.
13. Any other work related to the electrical systems and stabilizer system, installation and fittings of a minor nature in the NCPOR complex including the UPS, Voltage stabilizers EPABX line checking.
14. Maintenance of the daily roster chart of the persons employed by the contractor and submitting to the Estate Section.
15. Once in a six months contractor shall arrange the servicing of double pole structure, this includes greasing, checking resistance of all insulators, checking tightness and conductivity etc. Also, contractor should provide fuse wire.

**(B) Day to day Operation and Maintenance of DG sets/Engine 320KVA/750 KVA**

**i. Diesel Generator (DG)**

1. The contractor shall carry out minor maintenance work such as switching ON/ OFF the DG Sets, checking the operation of the DG Sets and attending to the problems. In case the rectification of the fault in the DG Sets is beyond the reach of the party, the party may inform to the respective AMC agency. The party may provide proper assistance to the AMC Agency during their visits.
2. Check coolant level in radiator, if necessary, top up with drinking water.

3. Check oil level in oil pump, top up to max. Level in dip stick.
4. Check fuel level in fuel tank; ensure minimum level in a tank.
5. Clean Air Filter and Air Filter Housing.
6. Check Belt tension and for cracks.
7. Check hoses for leakages.
8. Clean breather for every six months.
9. Replace Engine oil if required or as per direction of Elect. Engineer of NCPOR.
10. Renew oil filter and fuel filter / separator along with change of Engine Oil
11. Renew coolant conditioner element once in a year.
12. Carry out valve settings every 2000 hours of operation.
13. Check Anti vibration mounts.
14. Check smoke, vibration and sound level.
15. Clean/Check the battery leads.
16. Check the acid level in batteries and add the distilled water if necessary
17. Check for loose connections of terminals of starter motor.
18. Clean the EIM fuses
19. Check loose connections for ECM if fitted
20. Check the end connections of electrical outgoing Lines.
21. Maintaining a log book for above said jobs and take counter sign from Engineer and Estate In-Charge
22. Cleaning of both the D.G. and alternator once in a month.
23. Maintaining sufficient stock of diesel & arrangement of transport of diesel from the designated petrol pump at Vasco to NCPOR would be the responsibility of the contractor. The bidder may assess the transportation cost & include in the price bid. The diesel purchase bill will be directly settled by NCPOR with the respective petrol pump. The contractor should timely collect the credit voucher from the Estate/Administration section and arrange diesel.

## **ii. ALTERNATOR**

1. Open cover of Alternator, AVR and speed control unit, clean gently the dust by air pressure.
2. Check the mountings of CTØ for its position; ensure that does not make contact with body.
3. Check for loose connections for all Power/Neutral cables connections.
4. Check for the alternator fuses.
5. Check for loose connections at AVR and any speed



### **iii. CONTROL PANEL / SYNCHRONISING PANEL**

1. Check for loose connections of cables of Meters/Connectors.
2. Switch off the panels & open all the doors of the panels for cleaning by air blower; check for loose connections, once in a month. After cleaning the same, panels should be properly closed and switched on.

### **iv. CIRCUIT BREAKER (CB)**

1. Check the outgoing and incoming phase, neutral connections of CB.
2. Check mountings of Circuit Breaker and tightness of Power Cables.

### **v. BATTERY CHARGER**

1. Check loose connection of end leads and fuses
2. Check battery charger for its functions.
3. Clean the terminal connectors and apply the jelly once in a week.
4. Check the level of distilled water in all batteries by gravity tester and top up the level as directed by Engineer-In-Charge.

### **vi. GENERAL**

1. Ensure all covers are fitted, make a walk around inspection and then start the Genset.
2. Check all parameters and load the Genset, fill the Load Test Report.
3. Appraise the Eng-In-Charge regarding operation and daily check-ups of Genset.
4. All earthing connections to electrical installations/systems at office and residences at NCPOR Campus should be checked properly by Earth Megger every month. Proper record of the same should be maintained and take counter signature from the Concerned Officer periodically.

### **vii. PREVENTIVE MAINTENANCE**

#### **a. Daily Routine**

1. Check the coolant in the radiator, lubricating oil in the engine and fuel in the fuel tank and replenish, if necessary.
2. Check the battery voltage, level of electrolyte in the battery and top up if needed. Also check the charging current of the battery.
3. Check up the fan belt for proper tension.
4. Start the DG set and check up rated RPM, proper output voltage and frequency.
5. Check for proper oil pressure.
6. Check up the operation of AMF panel
7. The details of all parameters should be recorded in the designated register. Contractor shall arrange the registers / stationary at his cost as per requirement.
8. The generator should be operated at least one time on load for 10 minutes daily in case there is no power failure from the Electricity Department.

9. The DG set to be operated round the clock in the event of power failure from the Electricity Department, by a qualified and authorized operator only.

10. May keep the running of both the D.G. Sets depending upon the load and as directed by Engineer-In-Charge.

**b. Weekly routine**

1. Check up the alternator terminal connection for tightness.

2. Check up the battery terminal connections for tightness and apply petroleum jelly on their terminals.

3. Check the starter connection for tightness.

4. Clean all parts of the diesel engine with cloth or cotton waste.

5. The NCPOR will supply all consumable items on written demand e.g. (Consumable-diesel, lubricant oil, coolant, grease petroleum jelly, cotton waste, distilled water etc.)

6. Transportation of Diesel from fuel station to NCPOR.

6. Proper assistance/manpower to be provided by the AMC's (for DG sets).

7. Checking of Pump Motors, MV Panels, Feeder pillars, Switch gears, Street lights and Periphery Lightings.

**c. Regular Checking**

Checking Feeder pillars, Cables, Ceiling Fans, Geysers and energy meter panels. Checking and noting Earth resistance measurement of all houses and installations including installations identified by Electrical Engineer/Estate I/c.

**(C) Preliminary checking of Air Conditioning System in NCPOR:**

1. The Contractor shall carry out the Maintenance work such as switching ON/OFF the A.C. unit.

2. Any major fault in the A/C system to be reported to Electrical Engineer or Estate In charge, NCPOR immediately.

3. The machines are to be operated regularly or as and when required, for their better performance.

4. Only qualified and authorized operator may be allowed to operate the system.

5. The Contractor shall assist the AMC (AC unit) Agency during their visits.

**(D) Maintenance of Lights/Fans /Telephones etc. in Office buildings as well as Residential Complex including Pathway Lights, Flood Lights.**

1. Repair and Replacement, Maintain the wall/ceiling mounted fittings, tube light fixtures and fans, Cables /wiring etc. in NCPOR Campus.

2. Change the fused bulbs / tube lights as and when required and maintain the stock and issue register.

3. Change the unserviceable electrical material as per requirement and direction by concerned officer.

4. If there is any fault in the electrical cable lines/wiring or any other electrical problems, the party shall attend and replace the same immediately. The required material shall be arranged by NCPOR on written demand.

5. The contractor shall carry out the work of fixing any extra electrical fixtures, fittings or points or telephone wiring as required. The party shall also carry out the work of electrical points with surface or concealed wiring as instructed by Electrical Engineer/Estate I/c, also the work related to line shifting/ removing/ extending/ checking of the telephone lines as well as telephone instrument as and when required without any extra cost. The required materials will be provided by NCPOR as per the actual requirement.

6. The contractor should monitor Energy meter in the Residential Quarters and report any problems to concern Engineer.

**(E) Maintenance and Operation of UPS systems (60 KVA x 2, 40 KVA x1, 30 KVA x 3, 15 KVA x 1, 20 KVA x 1, 10 KVA x 2):**

1. The party shall carry out minor maintenance work such as switching ON/ OFF the UPS, checking the operation of the UPS and attending to the problems such as tripping of the UPS etc. In case the rectification of the fault in the UPS is beyond the reach of the party, the party may inform to the respective AMC agency. The party may provide proper assistance to the AMC (AC units) Agency during their visits.

2. The party has to clean the UPS and Batteries by air blower periodically and maintain the register of all services rendered and should take counter signature from the concerned officer.

3. Regular Battery Health Check up and submit Battery volume report monthly.

**(F) Maintenance and Operation of voltage stabilizers (60 KVA x 2, 200KVA x 1):**

1. The party shall carry out minor maintenance work, checking the operation of the voltage stabilizers and attending to the problems such as tripping etc. In case the rectification of the fault in the voltage stabilizers is beyond the reach of the party, the party may inform to the respective AMC agency. The party may provide proper assistance to the AMC (AC units) Agency during their visits.

2. The party has to clean by air blower periodically and maintain the register of all services rendered and should take counter signature from the concerned officer.

**(G) Water Management, & minor Plumbing & Work.**

1. Checking the level of Overhead Water tank thrice in a day and report if not satisfactory. Day to day Operation of the Overhead water tank pumps and taking daily readings of PWD water supply & calling of water tankers if required with permission of Estate I/C.

2. Checking the float valves of all the Overhead water tanks & replacing the same when found faulty. (Material will be supplied by NCPOR).

3. Repair/replacement of taps, pipe lines, drains etc. & do necessary plumbing works as and when directed by the Estate I/c.

4. Maintenance of automatic toilet flushing system, check flow of water, change of batteries.

5. As & when told check/oiling/fixing of door closers, tower bolts, handles, latches.

6. To arrange specialized personals other then regular maintenance staff for dismantling, reinstallation of faulty overhead water tank motors including transport, loading, unloading. However repair work will be under scope of NCPOR.

**(H) Miscellaneous Works.**

1. Cleaning & maintenance of Electrical Signage of NCPOR.

2. The scope of services includes servicing and routine repairs and replacement of parts and accessories.
3. The contractor should follow preventive maintenance methods to prevent sudden breakdown. Painting/Antirust treatments to apply to avoid rusting of machine parts, accessories (material will be provided by NCPOR).
4. In case of break-down of any electrical item/equipment which the contractor's staff unable to repair it at site, the contractor shall get it repaired/serviced from outside & make it functional within max. 48 hours.

**(I) Fire Alarm System.**

- 1) Acknowledgement of alarms in Fire alarm panel and intimating the same to engineer in-charge.

**(J) Fire Fighting System.**

- 1) Weekly testing of all the motors and generator, also checking the water flow through fire hydrants.
- 2) To arrange specialized personals other then regular maintenance staff for dismantling, reinstallation of faulty fire fighting pumps including transport, loading, unloading. However repair work will be under scope of NCPOR.

**(K) Flood Lights and Height Work.**

- 1) Contractor has to arrange specialized personals other than regular maintenance staff for all the works at height like maintenance/repair work of flood lights, auditorium hall lights on it false ceiling.
- 2) Providing necessary safety equipments and safety measures shall be contractors responsibility

**(L) Additional Electrical Installations.**

During the contract period if there is increase of any additional Electrical Installations, the contractor has to maintain the same in the same contract cost.

**(M) 185 kW Solar Power plant**

- 1) Taking manual reading of the solar energy generation from all the respective meters installed at various locations in the campus & to inform the Engineer in-Charge if any defects are observed.

The Solar power plant is grid connected and is likely to enhance its capacity in the upcoming years

- 2) Monitor/supervise the regular cleaning of solar Panels during its maintenance by the concerned solar agency.

**(N) Centralized VRF system in the Ice core lab extension and Polar lab building**

- 1) Operation of the system as per official need and intimating the engineer - in- charge of any defect observed in the system. The repair of the defects would be undertaken by NCPOR at their own cost.

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## ANNEXURE – III

**LIST OF INSTALLATIONS:**

| Sr. | Description Of Unit                              | Type/rating   | No. of Sets   |
|-----|--|---|---|
| 1   | Transformer (HT 11 KV & LT 11KV/44OV)            | 750KVA  | 1   |
| *2  | *Transformer (HT 11 KV & LT 11KV/44OV)           | 800KVA  | 2   |
| 2   | Diesel Generator                                 | 320KVA<br>750KVA<br>*750 KVA  | 1 set<br>1 set<br>1 set   |
| 3   | Centralized UPS                                  | 60 KVA<br>40 KVA<br>30 KVA<br>10 KVA<br>15 KVA<br>20 KVA<br>*40KVA<br>*100 KVA<br>*60 KVA | 1 set<br>1 Set<br>3 Set<br>2 Set<br>1 Set<br>1 Set<br>1 Set<br>1 Set<br>2 Set |
| 4   | Residential Quarters of<br>Different Types       | TYPE I<br>TYPE II<br>TYPE III<br>TYPE IV<br>TYPE V<br>TYPE VI                             | 2<br>2<br>5<br>1<br>4<br>1  |
| 5   | Bore Wells                                       | 5 HP Motor  | 2   |
| 6   | Water pumps                                      | 10 HP Motor   | 2   |
| 7   | Fire fighting                                    | 7.5HP Jokey<br>30KW Pump  | 1<br>1  |
| 8   | Street Lights<br>Pathway Lights<br>Flood Lights  | -   | 80<br>90<br>28  |
| 9   | Electrical Substation with HT /LT Panel capacity | HT-800A<br>LT - 630A<br>LT- 1600A   | 1<br>1<br>1   |
| 10  | HT/LT lines /poles                               | Double pole<br>structure  | 1   |
| 11  | Telephone lines                                  | -   | 150   |
| 12  | Voltage Stabilizers                              | 60 KVA<br>200 KVA   | 2<br>1  |
| 13  | Auditorium with LT Panel capacity                | LT 6 400 A  | 1   |
| 14  | Fellows lab with LT Panel capacity               | LT 6 250 A  | 1   |
| *15 | Container Yard with LT Panel capacity            | LT - 630 A  | 1   |
| *16 | Lab-block extension with LT Panel capacity       | LT - 400 A  | 1   |
| *17 | Polar lab with LT Panel capacity                 | LT - 1600 A   | 1   |
| *18 | EOT crane with spreader system                   | 40 tonne  | 1   |
| *19 | Passenger cum goods lift                         | 1000 kgs  | 2   |
| *20 | Passenger Lift                                   | 884 kgs   | 3   |

*This is a list of existing installations however there may be addition/deletion in future.*

*\* This installations shall likely to be added in next one to three years. The Contractor should maintain the same as & when installed/commissioned.*

ANNEXURE – IV

**QUALIFICATION, DUTIES AND RESPONSIBILITIES** of Contractor & his staff.

**A) Contractor:**

**Qualification:** Qualified as per the eligibility criteria mentioned in the tender.

**Duties & Responsibilities:**

- a. Visit the site at least once in a week.
  - b. Compulsory presence of contractor on the days of important meetings, functions at NCPOR & as & when informed by the Estate In-charge.
  - c. Weekly verification, sign & submission of registers.
  - d. Providing all essential tools, equipments, consumables, etc. to his staff for day to day maintenance & emergency.
  - e. Providing all safety equipments, material & uniform to his all staff.
  - f. Provide necessary training to his staff on quality, safety & technology.
  - g. If any staff is on leave/absent for more than 24 hours, the contractor should provide immediate replacement with equally qualified & experienced person
  - h. The Contractor has to arrange repairs, maintenance, fittings of fixtures etc. for the installations in the campus of all heights & depths.
  - i. To arrange transport, loading, unloading of diesel for generators.
  - j. To arrange specialized personals other than regular maintenance staff for dismantling, reinstallation of faulty pump motors of overhead tank, fire fighting, bore well etc including transportation , loading, unloading for the same.
  - k. To arrange specialized personals other than regular maintenance staff for rectifying any major breakdown in HT/LT line, HT/LT breakers, DP structure, distribution panel etc.
  - l. To arrange duties of his staff. All staff should work in 8 hrs. shift in three shifts . every staff should get one weekly off & leaves, holidays as per the rule.
  - m. **Payment to staff: The Contractor shall make payment to his staff as per the prescribed rates of Minimum Wages Act of Govt. of India for Area B (Goa) or above. The Helper is to be considered as Semi Skilled, Junior Technician is to be considered as Skilled, Senior Technician to be considered as Highly Skilled worker. The Supervisor should be paid above Highly Skilled worker at par with the corporate salary structure.**
- *Pl refer Order No./F.No.1/20(3)/2020-LS-II Government of India, Ministry of Labour & Employment, Office of the Chief Labour Commissioner (C) dated 12/10/2020 for Industrial Workers – B Area and consequent orders issued). Bidder should strictly follow the above orders for fixing/quoting wages for his staff along with the current orders of the Government of India for EPF, ESI, Bonus etc.*
  - Salary of all staff should be directly deposited to their bank a/c after deduction of ESI, EPF, perks etc. Bank a/c statement of a previous month of all staff should be enclosed with the monthly bill for payment.
  - The Contractor need to obtain & provide **Labour Contract Licence from the Government of India, Office of the Licensing Officer in Form VI (Under Rule 25(1) of the Contract Labour (Regulation & Abolition) Central Rule, 1971)**
  - The Contractor shall be liable for strict action if it is observed that payment made to his staff is less than the prescribed rates.

**Pl. Note :** The existing minimum wages notification of Govt. of India was issued on 19<sup>th</sup> January 2017 however, the Contractor will have to follow the new rates as per the new orders as & when published. Therefore, bidders should consider probable increase in min. wages & periodic increase of VDA while quoting rates.

**B) Supervisor:**

- Qualification:** (i) Should have minimum qualification of Diploma in Electrical/Electronics Engineering, Three Years regular course from Govt. recognized Institution after passing X std.  
(ii) Should have Electrical Supervisory License issued by Electrical Department of any State Govt/UT of at least 11 KVA  
(iii) Should have relevant work experience of minimum Seven years.

**Duties & Responsibilities: The Supervisor should be able to :**

- a. Understand & manage total incoming electrical supply & distribution system, DG panels & DG power supply system of 750 KVA & 320 KVA DG etc.
- b. Able to operate/manage Electrical Substation which includes HT/LT panels, VCB, ACB, power bank, DG power panels, AC-DC synchronization panels etc.
- c. Maintain transformer, tap changing, step up/down power regulation.
- d. Understand & address external & internal power break down issues quickly.
- e. Tackle three phase/single phase power distribution to various laboratories & its highly sophisticated scientific instruments.
- f. Aware of Solar Energy generation system, solar panels & energy meters etc.
- g. Observe, maintain critical power points such as cold room for continuous power supply without fail.
- h. Manage illumination in the entire office, office campus, streets, pathways etc. during day & night.
- i. Manage water distribution system, arrange servicing/repair of motors, arrange water tankers if required.
- j. Identify required electrical items/fixtures & assist Electrical Engineer to maintain stock of essential electrical items.
- k. Operate computer & have basic knowledge of MS Words/Excel.
- l. Provide input for the Civil or Electrical works/projects as & when required.
- m. Get the work done from the deployed staff of the contractor to the satisfaction of the Electrical Engineer / Estate In-Charge.
- n. Do strict supervision on all his staff of all shifts, maintain discipline & keep records.
- o. Follow instructions of Electrical Engineer, report to him.
- p. Work in co-ordination with the HVAC Supervisor & provide required help.
- q. Communicate, liaison with the staff of Electricity Dept./PWD, Govt. of Goa for issues like power failure, works, billing etc.

**C) Senior Electrician:**

- Qualification:** (i) Should have minimum qualification of ITI Electrician trade of any Government recognized Industrial Training Institute.  
(ii) Should have relevant work experience of minimum Five years.

**Duties & Responsibilities : Senior Electrician should :**

- a. Be able to Understand power distribution system, HT, LT panel operation & maintenance.
- b. Be able to Operate DG power system
- c. Attend complaints, understand the problem, rectify, report.
- d. Assist the Supervisor in work.
- e. Be able to take all meter readings like water meter, electricity meter, DG, Transformer, Solar power meter etc.
- f. Make a compulsory round every day to the office campus to check fittings of pathway lights, street lights, flood lights etc & report.

**D) Junior Electrician:**

- Qualification :** (i) Should have minimum qualification of ITI Electrician trade of any Government recognized Industrial Training Institute.

(ii) Should have relevant work experience of minimum Three years.

**Duties & Responsibilities : Junior Electrician should be able to,**

- a. Attend complaints, understand the issues, rectify with the help of Sr. Electrician, report.
- b. Do servicing of fans, electrical equipments, water coolers.
- c. Maintain UPS batteries, check voltage, record.
- d. Understand all safety signs, maintain safety, security & cleanliness in Electrical Substation
- e. Arrange, maintain ladders & other operation tools.
- f. He should assist the Supervisor /Senior Electrician in work.
- g. Assist Estate Office in day to day work.

**E) Electrical Assistant:**

**Qualification :** (i) Should be minimum 10<sup>th</sup> Passed, healthy & fit to do material handling work.  
(ii) Min. experience of one year of working in office/factory/workshop.  
(iii) Basic knowledge of Electrical work, office etiquettes.

**Duties & Responsibilities :**

- a. Cleaning of electrical equipments, machines, tools, signages etc.
- b. Handling, carrying ladders, electrical stores material etc.
- c. To assist Electrical technicians in their work.
- d. To assist Estate Office in day to day work.

**General duties of Supervisor & Technicians :**

- a. At the end of the shift, log register should be maintained to write the jobs /work done and also the pending work so that subsequent shift technician can complete the jobs.
- b. All staff should be able operate power switch over from AC to DC in case of power failure.
- c. At least one person should be compulsory present in the sub-station for all the time.
- d. Strict duty timings should be followed. No staff should leave his duty unless his reliever reports to duty. No staff shall leave office between duty hours without permission of Estate Electrical Engineer.
- e. All staff will work in three shifts on rotation basis as per the shift schedule fixed by Supervisor/Electrical Engineer.

**The Contractor/Supervisor needs to maintain following Registers :**

1. Complaints register.
2. Daily work register.
3. AC Package unit log book.
4. Daily Shift Log Register.
5. D.G. Engine maintenance register.
6. D.G. Sets Alternator maintenance log book
7. U.P.S. maintenance log book (each).
8. Attendance register.
9. HT/LT and Power factor reading register.
10. Any other register/log book if required as informed by Estate In charge

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## ANNEXURE - V

**WORK COMPLETION PROFORMA**

Pl provide details of works executed. Work means electrical work similar to this tendered work & not including civil & other maintenance works. Work of at least one single Annual Maintenance Contract (AMC) in electrical work amounting not less than Rs. 50 lakh per annum Or two AMC in electrical work amounting not less than Rs. 40 lakh per annum Or three AMC in electrical work amounting not less than Rs. 30 lakh per annum, of any Govt/PSU/reputed organization, company during last seven years ending December 2020

| Sr. | Name of the Work | Location of site | Value of work completed<br>(Rs) | AMC period | Name & Contact details of Organization & the Officer under whom work is done. |
|-----|------------------|------------------|---------------------------------|------------|---|
|     |                  |                  |                                 |            |   |

\* Pl. enclose self attested copies of work orders & work completion certificates. Original documents will have to be submitted for verification as & when asked.

**Name & signature of the tenderer with the seal :**

## ANNEXURE – VI

### TERMS AND CONDITIONS OF CONTRACT

1. The Contractor is responsible to provide qualified and well experienced personnel as detailed at Annexure 6 IV. All persons should be healthy, physically & mentally fit, of good character & none of them should have any criminal background or registered any police case against them.

The Contractor will have to submit details of all deployed personnel with a brief resume of their qualification, age, experience etc. within a week from the date of award of work.

2. All staff will work in rotation shifts. Each shift will be of 8 hrs & shift timings will be fixed by the Estate Section. Weekly off should provided to each staff.

3. The Contractor should execute operation and maintenance services only through the qualified manpower as described in the tender document.

4. The Contractor and his staff shall strictly follow the Standard Industrial Safety & Security Norms.

5. Full time daily supervision by the Supervisor at site is compulsory.

6. Liaisoning with Electricity Department, for arranging shutdown of HT/LT lines for any maintenance work will be responsibility of the Contractor.

7. Service / Maintenance Report should be maintained in each case and should be submitted duly countersigned by the Supervisor & Estate Engineer while submission of monthly bill.

8. The Contractor, within a week from the award of contract will have to arrange the following,

**(i) Tools & equipments** : Multi meter, Megger, Ammeter, Galvanometer and Earth tester, Drill machine, Drill bits of assorted sizes, Air blower, Vacuum Cleaner, Crimping tool size 0.5 mm. to 300sq mm, Screw drivers, Spanners set, Cutting pliers set, Wire stripper, Hammer, Pipe range, Hack-saw, Soldering irons, Battery Torch & any other tools required for maintenance/repair job and should be available at site till completion of the contract period.

**(ii) Safety gadgets** : Shock resistant Hand Gloves (HT), Safety belts, Safety shoes, Raincoats, umbrellas, Rubber mattings, etc.

**(iii) Consumables** : HT fuse wire for 11KV DP Structure, For all earthing pits - Charcoal & Rock salt for earthing pits, Petroleum jelly, Grease, Dust cloths, WD-40 Antirust sol., Soldering material, Hacksaw blades, Emery papers, Battery Cells (big size) etc.

**(iv) Uniform** : Uniform of pre-approved colour & quality of cotton/terry-cotton cloth (02nos. per worker per year), Safety shoes (01 pair per worker per year)

**(v) Computer** 6 The Contractor has to arrange 01 no. of desktop computer & a deskjet printer for his Supervisor/Staff.

**(vi) First Aid** 6 Standard First Aid Box with necessary material.

9. The Contractor needs to manage sufficient stock of diesel for generators for all times. He has to arrange barrels for diesel & vehicle to bring diesel from the designated petrol pump in Vasco. Transportation, loading-unloading & safe keeping of diesel barrels is a responsibility of the Contractor.

10. Periodical cleaning, testing & routine maintenance of electrical systems should be done as recommended by manufacturers, and as directed by Electrical Engineer.

11. The Contractor shall ensure and display the monthly duty chart / Shift roster provided. In case of any staff on leave for more than four days, the Contractor should provide replacement staff of the same qualification & experience.

12. The Contractor shall provide all safety gadgets like shock resistant Hand Gloves, Safety shoes, Raincoats, Helmets, Torches etc. to the each staff, appointed by him during Operation and Maintenance work at site.

13. Safety & Security of the Contractor's staff shall be sole responsibility of the Contractor. In case of any accident occurs due to any reasons during duty hours in NCPOR campus, NCPOR will not be responsible in any way for it. No extra payments shall be made to the Contractor and No claim what so ever nature will be given or paid on this account and **Contractor is fully responsible for such eventualities and he should indemnify NCPOR from such happening.**

14. The Contractor shall be responsible to maintain records and furnish data about mandatory tests i.e. insulation and earth tests of all the installation as per Indian Electricity rules & IS specifications.

15. The Contractor's staff shall dispose the electrical waste like fused bulbs, tubes, burnt cables, parts etc. at the proper place.

16. It shall be the responsibility of contractor to maintain and hand over back all the installations covered under the scope of service after completion of the contract period in good working condition.

17. The Contractor shall be responsible for the equipments, materials handed over to him, and in case of its damage or missing, the same shall be repaired or replaced him at his cost.

18. Any damage done to the existing installation, equipment or to the building particularly due to negligence shall be entire responsibility of Contractor to repair, rectify or replace the same at his own cost.

19. Contractor shall be fully responsible for releasing payment to service providers/work force engaged by him as per provision of the Minimum Wages Act and also shall be responsible for complying with the Labour Regulations in vogue regarding the Maintenance of attendance and other registers etc. **The Contractor in addition to the above is also fully responsible for complying with the EPF and ESI Act in respect of his staff members.** The Contractor has to submit the proof of monthly deposition.

20. The service providers deployed at site of services to be carried out shall be trained and qualified as per the Indian Electricity (IE) standards and should be able to behave properly with the NCPOR's officials. In case of complaint about any misbehavior & or for improper working of any of the staff of the Contractor is received or noticed, he should be replaced by the Contractor immediately failing which it shall be presumed that no such service provider is deployed and accordingly the corresponding charges will be deducted from the bill.

21. Any person other than the appointed staff of the Contractor shall need prior permission before entering NCPOR campus.

22. The Contractor shall be fully responsible for any theft, pilferage, riot, strike by him or his staff or if any other civil/criminal case arise due to him or his staff during the contract period and he should indemnify NCPOR from such implication / eventualities / happenings.

23. NCPOR reserves the right to alter, modify scope of the contract & increase or decrease the Contractor's manpower by any number & payment shall be made on pro-rata basis for the actual number of manpower appointed.

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**STANDARD TERMS AND CONDITIONS**

**1. INTERPRETATION:**

- a. In construing these conditions the Specifications, the Schedule of Quantities, additional Conditions and Agreement, the following words shall have the meanings herein assigned to them except where the subject or context otherwise requires.
- b. This contract shall comprise of the Articles of Agreement, General Conditions of Contract, Additional Conditions, Scope of Work, the Schedule of Quantities , Specifications, drawings , letter of acceptance of tender and other documents mentioned in the contents sheet attached hereto and including those to which only reference is made herein.

**WORK OR WORKS:** shall mean all work or works defined in schedule of quantities. Specifications and such other work or works as the contractor may be entrusted with for carrying out under this contract.

**NCPOR:** shall mean the Director, National Centre for Polar & Ocean Research, Goa or any officer authorized by the Director for the purpose.

**ENGINEER:** shall mean the Engineer designated by NCPOR to superintend and perform other duties as indicated in the contract.

**CONTRACTOR:** shall mean an individual or Firm or Company , whether incorporated or not, undertaking the work and shall include the legal personal representative or such individual or the persons composing such Firm or Company or the successors of such Firm or Company and the permitted assignees of such individual or Firm or Firms or Company. The Contractor is also called Party or Agency.

**SITE:** shall mean the site or area of the contract works including any buildings, place, land and installations as informed by NCPOR to the Contractor to perform contract work.

**2. GUARANTEE:** At the end of the contract, all the units/systems covered under AMC should be handed over to NCPOR in good working condition

**3. LABOUR LAW:** The contractor shall submit a valid license under the Contract Labour (R&A) Act 1970 and the Contract Labour (Regulation & Abolition) Central Rules 1971 before the commencement of work and continue to have valid license during the currency of the contract.

The contractor to follow,

- a) Contract Labour (Regulation and Abolition) Act 1970
- b) Payment of Wages Act 1956
- c) Employment of Childrens Act 1923
- d) Minimum Wages Act
- e) Employee Provident Fund Act 1952 and scheme made under said Act.
- f) Obtain required licenses/clearances etc. from Assistant Labour Commissioner, Municipality and other local agencies/bodies at his own cost, wherever necessary. And any other existing laws in this regards.

**4. SAFETY:** Contractor shall be fully responsible for any injury (whether fatal or otherwise) or death of his manpower during work at NCPOR, for any loss or damage to property or for any other loss, damage, costs and expenses whatsoever caused during visits to the site for the purpose of maintenance and to be liable to indemnify the NCPOR against any claim that may arise for any damage or loss to NCPOR property or injury caused by the Contractor & his manpower.

**5. RENEWAL/TERMINATION OF THE CONTRACT**

- a. The Contract period is Twelve Months extendable on yearly basis for a further period of Two Years with the same rate & same terms & conditions of the agreement based on the satisfactory performance assessed by NCPOR.
- b. The work performance of the contractors & individuals service providers will be assessed periodically and if the same is found unsatisfactory the contractor should immediately replace the service provider / work force.
- c. If the Contractor is found to be not performing satisfactorily during the course of the Contract period, or refuses to do any part of the work or becomes bankrupt or knowingly submits a false statement then NCPOR may terminate the contract at any stage after giving due notice. If the Contract is terminated for any reason, EMD & Security Deposit will be forfeited.

## 6. PENALTY CLAUSE

- a. For non deployment of designated manpower : 5 % of the total monthly contract amount would be levied as penalty if full strength of agreed personnel are not present for continuous 03 days in one month. The Contractor should maintain the minimum man power as mentioned in the tender. If the Contractor does not engage additional manpower of same category in case of absent of any staff, penalty will be imposed at double the rate of wages or salary for the day he remains absent.
- b. For non-performance of the Contractor : 5 % of the total monthly contract amount would be levied as penalty.
- c. For non- Compliance of work: In the event of failure of the contractor to comply with the complaint, the Institute shall be at liberty to engage other agency and get the work done and expenditure so incurred shall be recovered from the Contractor. Non-compliance to any of the complaints and not done satisfactorily would be recorded and recurrence of such incidents may lead to cancellation of the contract. All repairs should be made at the NCPOR premises as much as possible. In case any part/equipment needs to be taken outside NCPOR for repair, then necessary gate pass is required to be submitted to Security office. The Contractor shall repair & bring back the same part/equipment within two working days. Any delay in conducting maintenance/repair/replacement of critical component which leads to malfunctioning/stoppage of any of the functionalities would be dealt seriously & treated as break-down of the entire system and the entire loss incurred out of such incident will be recovered from the Contractor and decision of NCPOR authorities will be final in such matters.

## 7. PAYMENTS TERMS:

- a. Payment to the Contractor will be released every month within 30 days upon submission of bill in duplicate after satisfactory performance of the Contractor & completion of work after deduction of statutory taxes. No part payment / advance will be made. (As per the Govt. of India norms, payment to the Contractors are made online through Public Financial Management System (PFMS). The Contractor should submit his bank & other details in the prescribed format along with the first bill.)
- b. The copies of deposit challans of EPF and ESI and Bank Statements of previous month of all persons of the Contractor is the pre-requisite for processing payment.
- c. The contract is a fixed price contract & no escalation will be permissible during any stage of contract.

**8. STATUTORY VARIATION:** Any statutory increase or decrease in the taxes and duties subsequent to bidder's offer & during the contract period will be to the NCPOR account subject to the claim being supported by documentary evidence. And in case of any decrease in taxes and duties, the advantage will have to be passed on to the NCPOR.

**9. SECURITY DEPOSIT (SD):** It is security cum performance guarantee deposit. EMD of the successful bidder will be converted into Security Deposit and 10% amount of every monthly bill will be deducted as SD. It is an interest free deposit and will be refunded to the Contractor after successful completion of the contract period. In the event termination of contract, the Security Deposit will be forfeited

**10. AGREEMENT:** A formal Agreement of Contract will be made between employer and the successful bidder within a week from the date of award of contract. If the successful bidder fails to make an Agreement of Contract within two weeks from the date of Work Order, the awarded work will be cancelled & EMD will be forfeited.

**11. POST TENDER CORRESPONDENCE / ENQUIRIES:** Any correspondence or enquiry subsequent to opening of the bids is not desirable, if the same is indulged into, it will be considered for disqualifying the tender. The Tenderer will be required to abstain from pursuing / canvassing the matter, directly or indirectly with any Officers of NCPOR, as otherwise the same would also amount to disqualification of the tender. However, bidder can ask their queries in writing regarding bidding conditions, bidding process prior to the bid opening and/ or rejection of its bid, reason for rejecting a tender after opening of bids.

**12. CLARIFICATIONS FROM BIDDERS:** To assist the process of examination, evaluation and comparison of bids, the Employer may ask all the bidders or any bidder individually for clarification, if any, of their bids, including breakdown of unit rates and price. The request for clarification and the response should be in writing, but no change in the price or substance of the bid will be sought, offered or permitted, except as required to confirm the correction of arithmetical errors discovered by the Tender evaluation committee of NCPOR in the course of

scrutiny.

**13. SETTLEMENT OF DISPUTES/ARBITRATION:** The decision of the Director, NCPOR shall be final and binding for any dispute whatsoever. All questions, disputes or differences whatsoever which may at any time arise between the parties to this agreement touching the agreement or subject matter thereof, arising out of or in relation there to shall be referred to the decision of the Sole Arbitrator, appointed by the Director of NCPOR and the decision of the said Arbitrator shall be final and binding upon the parties.

**14. RIGHT TO CANCEL TENDER/WORK ORDER:** In case of strike, accident, Act of God or any other unforeseen conditions causing stoppage of work, NCPOR reserves the right to cancel and/ or modify the tender / work order without any liability for any compensation and / claim or any description.

**15. JURISDICTION:** All questions, disputes or differences arising under out of or in connection with the Tender / Contract if concluded shall be subject to the exclusive jurisdiction of the court under whose jurisdiction the place from which the tender / Acceptance of tender is issued, is situated i.e. Goa.

I/ We have read all the above Terms and Conditions carefully and agree to it.

*Name & Signature of the Tenderer with seal :*

## ANNEXURE – VIII

**SCHEDULE OF RATES (PRICE BID)**

| Sr.                               | Particular   | No. of person / Quantity | Amount per Person Per MONTH | Total            | GST % | GST Amount (Rs) | Total (Rs)   |
|-----------------------------------|--|--------------------------|-----------------------------|------------------|-------|-----------------|--------------|
| (a)                               | (b)  | (c)                      | (d)                         | (e) =(c)x((d)    | (f)   | (g)             | (h) =(e)+(g) |
| 1                                 | Supervisor (above Highly skilled)  | 01                       |                             |                  |       |                 |              |
| <i>Only Amount (d) in words –</i> |  |                          |                             |                  |       |                 |              |
| 2                                 | Senior Electrician (Highly Skilled)  | 06                       |                             |                  |       |                 |              |
| <i>Only Amount (d) in words –</i> |  |                          |                             |                  |       |                 |              |
| 3                                 | Junior Electrician (skilled)   | 06                       |                             |                  |       |                 |              |
| <i>Only Amount (d) in words –</i> |  |                          |                             |                  |       |                 |              |
| 4                                 | Electrical Assistant (Semi-skilled)  | 01                       |                             |                  |       |                 |              |
| <i>Only Amount (d) in words –</i> |  |                          |                             |                  |       |                 |              |
| 5                                 | A cumulative cost of the essential items to be provided including accessories, equipments, tools, consumables necessary for maintenance, safety equipments, transportation of diesel etc, cost of uniform, shoes, insurance etc. as mentioned at Annex- VI /Sr. 8. (lumpsum amount per month to be quoted) |                          |                             | <i>Per month</i> |       |                 |              |
| <i>Only Amount (e) in words –</i> |  |                          |                             |                  |       |                 |              |
| 6                                 | Service Charges of the Contractor  |                          |                             |                  |       |                 |              |
| <i>Only Amount (e) in words –</i> |  |                          |                             |                  |       |                 |              |
| 7                                 | Other Charges if any :   |                          |                             |                  |       |                 |              |
| <i>Only Amount (e) in words –</i> |  |                          |                             |                  |       |                 |              |
| A                                 | <b>Total per Month :</b>   |                          |                             |                  |       |                 |              |
| B                                 | <b>Grand Total per Year (A x 12) :</b>   |                          |                             |                  |       |                 |              |





**ANNEXURE - IX**

EMD details

I / we have enclosed,

A crossed DD No. í í í í í í í í í í ..dated í í í í í í í í í í í

of Rs. 1,75,000/- (*Rs. One Lakh Seventy-five Thousand only*)

drawn in favour of **Director, NCPOR**

payable at **Vasco-da-Gama**, towards EMD.

*Name & Signature of the Tenderer with seal* :

PARTICULARS OF THE TENDERER

1. Name of the Tenderer : \_\_\_\_\_

2. Main Office Address : \_\_\_\_\_

3. Goa Office Address : \_\_\_\_\_  
\_\_\_\_\_

*(Pl. enclose copy of Electricity Bill/ Telephone Bill etc. of Goa address as a proof of establishment)*

(a) Name of the contact person : \_\_\_\_\_

(b) Telephone No. (s) : \_\_\_\_\_

(c) Fax No. : \_\_\_\_\_

(d) E-mail Address : \_\_\_\_\_

*(E-mail address should be provided which will be used for official correspondence)*

(e) Website Address : (if any) : \_\_\_\_\_

4. Electrical Contractor Licence Number : \_\_\_\_\_

For kV : \_\_\_\_\_ Registration Valid up to date : \_\_\_\_\_

*(Please enclose copy)*

5. PAN No. of the quoted Firm / Tenderer : \_\_\_\_\_

*(Please enclose copy)*

6. Goods and Service Tax (GST) Number : \_\_\_\_\_

*(Please enclose copy of registration number)*

7. ESI Registration Number : \_\_\_\_\_

*(Please enclose copy of registration certificate)*

8. EPF Registration Number : \_\_\_\_\_

*(Please enclose copy of registration certificate)*

9. Have you ever terminated/Black Listed by any organization : YES / NO

Name & Signature of the Tenderer with seal :

**TENDER SUBMISSION LETTER / OFFER FORWARDING LETTER**

**(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)**

---

Offer Reference No:.....

Date:.....

To,  
**Director,**  
**National Centre For Polar & Ocean Research**  
**Headland Sada, Vasco-Da-Gama, Goa 403 804.**

Dear Sir,

Sub : Submission of Offer against your Tender No: .....

I/We hereby offer to carry out the work detailed in your above Tender described as Upkeep And Maintenance of Electrical Systems & Allied Work at NCPOR, Goa, in accordance with the terms and conditions thereof.

I/We have carefully perused the Tender documents connected with the above work and agree to abide by the same.

I/We hereby declare and confirm that we have visited the Work Site as referred in NCPOR Tender on (date)..... and acquired full knowledge and information about the Site conditions including geographical location, climate, wage structure, the office law & order and other conditions prevalent at and around the Site. We further confirm that we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We further agree to execute all the works referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

I/We have submitted herewith the requisite Earnest Money Deposit (EMD) as per details furnished in EMD Details.

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

I/We, hereby certify that all the documents submitted by us in support of possession of "Qualifying Requirements" are copies of the original and are fully compliant required for qualifying / applying the bid and shall produce the original of same as and when required by NCPOR.

I / We hereby further confirm that no tampering is done with documents submitted in support of our qualification as bidder. I / We understand that at any stage (during bidding process or while executing the awarded works) if it is found that fake / false / forged bid qualifying / supporting documents / certificates were submitted, it would lead to summarily rejection of our bid / termination of contract. NCPOR shall be at liberty to initiate other appropriate actions as per the terms of the Tender / Contract.

I/We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by NCPOR and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred Tender Specification.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

I/We hereby also declare that we will not share any details of our bid for this tender with any other person/company/firm & maintain confidentiality of document & information till the opening of bids.

Yours faithfully,

(Signature, date & seal of Bidder or Authorized Representative of the Bidder)

**INSTRUCTIONS TO THE TENDERERS**

Tenderers are advised to submit tender strictly as per conditions stipulated in the tender document. Please enclose the following with the tender & submit all in a **Single Sealed Cover**.

***Cover (Sealed):***

1. Tender Submission Letter (Annex ó XI) from the Tenderer on his own letterhead.
2. Documents of Eligibility Criteria as mentioned in Annexure ó I
2. EMD in the form of DD
3. Annexure ó IX (EMD details)
4. Annexure ó X (Particulars of the Tenderer along with the documents mentioned to enclose therein)
5. Work Completion Proforma (Annexure ó V) along with self attested copies of Work Orders & Work Completion Certificate.
6. Price Bid (Annexure ó VIII, with signature & stamp on all pages)

All above document should be submitted in one sealed envelope (SINGLE BID SYSTEM) superscribing **Name of the Tender, Tender Number, date and time of tender opening** and address to **Director, National Centre for Antarctic & Ocean Research, Headland Sada, Vasco-Da-Gama, Goa**. Tender duly completed in all respect should be dropped in the tender box kept in the office of Estate section well before the due date & time.

í í í í í í í í í í í

**APPENDIX –I to X****PMI SCHEDULE FOR ELECTRICAL SYSYTEM:**

| Sr. No | Check for the following  | D | W | M | Q | H |
|--------|--|---|---|---|---|---|
| a.     | Non-burning of lights  | * | - | - | - | - |
| b.     | Noise from choke   | * | - | - | - | - |
| c.     | Flickering of tube, blackening of tube light ends and if yes. Corrective action to be taken. | - | * | - | - | - |
| d.     | Loose connections/Loose wiring   | - | - | * | - | - |
| e.     | Switch/Power plug condition  | - | - | * | - | - |
| f.     | Cleaning of Fixtures & tubes   | - | - | - | * | - |
| g.     | Cleaning of fitting louvers  | - | - | - | * | - |

**APPENDIX -II****FAN, EXHAUST FAN, WALL MOUNTING FAN AND PEDESTAL FAN**

| Sr. No | Check for the following                  | D | W | M | Q | H |
|--------|--|---|---|---|---|---|
| a.     | Cleanliness of fan blades                | - | - | * | - | - |
| b.     | Noise, loose connection and loose wiring | - | - | * | - | - |
| c.     | Split pins for holding the ceiling fans  | - | - | - | * | - |
| d.     | Condition of switches and fan regulator  | - | - | - | * | - |

**APPENDIX -III****VIP ROOM and DIRECTOR'S ROOM**

| Sr. No | Check for the following  | D | W | M | Q | H |
|--------|--|---|---|---|---|---|
| a.     | Cleanliness of Fittings, switches/sockets  | * | - | - | - | - |
| b.     | Condition of working of exhaust fans   | * | - | - | - | - |
| c.     | Neatness an general appearance of all electrical fittings/equipments in the room | - | * | - | - | - |
| d.     | checking of Serviceability Emergency Lights                                      | * | - | - | - | - |

**APPENDIX -IV****WATER SUPPLY PUMPS, DRAIN PUMPS, SEWAGE PUMPS AND HYDRO PNEUMATIC SYSTEM**

| Sr. No | Check for the following | D | W | M | Q | H |
|--------|-------------------------|---|---|---|---|---|
|--------|-------------------------|---|---|---|---|---|

|    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| a. | Check current drawn by each pump set                          | * | - | - | - | - |
| b. | Lubricate all moving parts of pumps sets as and when required | - | - | - | * | - |
| c. | Check the control wiring of panel                             | - | - | - | * | - |
| d. | Check the foot valve gasket                                   | - | - | * | - | - |
| e. | Record the No. of pumps in operation in the register          | * | - | - | - | - |

**APPENDIX -V****GENERAL CHECK**

| Sr. No | Check for the following   | D | W | M | Q | H |
|--------|---|---|---|---|---|---|
| a.     | Broken switches/switch boards in public area shall be replaced wit new ones quickly                                   | - | * | - | - | - |
| b.     | Fans in the public use toilets shall be cleaned every week or earlier   | - | * | - | - | - |
| c.     | All the switches and switch borads shall be regularly cleaned and all fixing screw shall be checked and fixed tightly | - | - | * | - | - |
| d.     | Proper tightness of cable/wire connections in MCB/DB valve gasket   | - | - | * | - | - |
| e.     | Closing/locking arrangement of MCB DB   | - | - | - | * | - |
| f.     | Proper circuit marking in the MCB DB with location  | - | - | - | - | * |
| g.     | Cleaning of Sign Borads   | - | - | * | - | - |

**APPENDIX -VI****ELECTRICAL SUBSTATION**

| Sr. No | Check for the following  | D | W | M | Q | H |
|--------|--|---|---|---|---|---|
| a.     | General cleanliness of the switch room, unwanted and inflammable materials should not be stored in the switch room | * | - | - | - | - |
| b.     | Voltages in three phases and current in each phase.  | * | - | - | - | - |
| c.     | Indication lamps   | - | * | - | - | - |
| d.     | Illumination level inside the room.  | - | - | * | - | - |
| e.     | Fuses/MCB/MCCB and SF Units.   | - | - | - | * | - |
| f.     | Working condition of meters, voltmeters and ammeters in the panel.   | - | - | - | * | - |
| g.     | Cable termination tightness inside the switchboard   | - | - | - | * | - |
| h.     | Earthing of LT Panel   | - | - | - | - | * |
| i.     | First aid procedures for electrical accidents  | - | - | - | - | * |

**APPENDIX -VII**

**Schedule of Maintenance Check for HT/LT Panels, Bus duct changeover Panel and Syn. Panel**

| Sr. No | Check for the following  |
|--------|--|
|        | <b>Daily</b>   |
| 1      | Check cleanliness of switch room/panels/bus ducts.   |
| 2      | Check and clear unwanted material from switch rooms  |
| 3      | Check for proper spreading of insulated rubber mats in front/rear side of panels.  |
| 4      | Check the working of meters, indication lamps, control switches and audiovisual annunciation in the panels   |
| 5      | Check for over heating/burning smell/any abnormality in all the panels   |
|        | <b>Monthly</b>   |
| 1      | Check for operation of ACBs/OCBs and switches  |
|        | <b>Quarterly</b>   |
| 1      | Check the termination/connection of all incoming and outgoing cables/bus ducts   |
| 2      | Check the tightness of cable termination and lugs  |
| 3      | LT panels, Bus duct, Syn and changeover panel  |
| 4      | Check the tightness of control cables  |
| 5      | Check the rating of fuses for all incoming and outgoing switches, control/indication circuits.   |
| 6      | Check the insulated/backelite portion of switches for carbon formation.  |
| 7      | Check the condition/continuity of body earthing  |
| 8      | Check for operation of relays.   |
|        | <b>Yearly</b>  |
| 1      | Check for the continuity of earth bus for panels/busduct.  |
| 2      | Check the calibration of all relays.   |
| 3      | Check for the need for painting.   |
| 4      | Check the tightness of cable termination and lugs of HT panels.  |
| *      | All the panels inside the S /stn, shall be checked daily. As regards other panels in T.B/other installation periodicity of the daily check could be made weekly. |

**APPENDIX -VIII****Schedule of Maintenance Check for Power Transformers**

| Sr. No | Description  |
|--------|--------------|
|        | <b>Daily</b> |



|    |  |
|----|--|
| 1  | Check cleanliness of transformer yard  |
| 2  | Check for uniform spread of Gravel and grass / vegetation growth in the yard |
| 3  | Check for any abnormal noise   |
| 4  | Check for any oil leakage  |
| 5  | Check the condition of silica gel  |
| 6  | Check oil level in conservator   |
| 7  | Check the explosion vent diaphragm for any crack or breakage                 |
| 8  | Check the locking arrangement of transformer yard                            |
|    | <b>Quarterly</b>   |
| 1  | Check oil level in breather oil cup  |
| 2  | Check emergency trip push button operation                                   |
| 3  | Check Earthing, clean the pit, put salt, water in earth pit.                 |
|    | <b>Half Yearly</b>   |
| 1  | Check/ examine bushings for cracks/dirt deposits                             |
| 2  | check tightness of connection at HT, LT and earth terminals                  |
| 3  | Check for free operation of Tap changer                                      |
| 4  | Check tightness of connections at Marshalling Box                            |
|    | <b>Yearly</b>  |
| 1  | Check acidity of transformer oil   |
| 2  | Check insulation resistance of Transformer                                   |
| 3  | Check and tighten the Gasketed joints  |
| 4  | Check cable box for Sealing of holes   |
| 5  | Check cable box for moisture condensate                                      |
| 6  | Check Buchholz relay contracts and their operation                           |
| 7  | Check Magnetic oil level gauge contacts and their operation                  |
| 8  | Check winding Temp. Indicator contacts and their operation                   |
| 9  | Check oil Temp. Indicator contacts and their operation                       |
| 10 | Check the pockets holding Thermometer for Temp. Indication                   |
| 11 | Check Transformer oil dielectric strength and Record.                        |
| *  | Annually or earlier as per the manufacturers recommendation.                 |

**APPENDIX -IX**

**Schedule of Maintenance Check for Earthing System**

| Sr. No | Description   |
|--------|---|
|        | <b>Monthly</b>  |
| 1      | Cleanliness of Earth pit/ area  |
| 2      | Check the condition of earth pit cover  |
|        | <b>Quarterly</b>  |
| 1      | Check the condition of watering funnel  |
| 2      | Watering of earth pits  |
| 3      | Check earth resistance and record   |
| 4      | Check the tightness of earth connections and continuity   |
| 5      | Check the identification marking of earth pits  |
| 6      | Check continuity of main earthing lead from earth pit to panel/ Equipment   |
| *      | The above schedule shall be strictly followed for substation equipments. For earth pits at other loactions, these quarterly checks can be carried out semiannually. |

**APPENDIX -X**

**Schedule of Maintenance Check for Battery Bank**

| Sr. No | Description   |
|--------|---|
|        | <b>Daily</b>  |
| 1      | Cleanliness of Battery room/ battery/battery bank.  |
| 2      | Check and record specific gravity, cell voltage and electrolyte level of battery.                     |
| 3      | Check the working of exhaust fan in battery room.   |
| 4      | Check the working of meters, indication lamps and audio - visual annunciation in the Battery charger. |
|        | Check the working of main and standby of battery charger i/c all functioning of battery charger.      |
|        | <b>Monthly</b>  |
| 1      | Check the battery terminals   |
| 2      | Check the interconnection of cells in battery bank  |
| 3      | Check the condition of hydrometer, cell tester used for battery maintenance                           |

|   |  |
|---|--|
| 4 | Check for loose connections or any abnormality in DCDB |
|   | <b>Quarterly</b>                                       |
| 1 | Check the condition/continuity of body earthing        |
| 2 | Check the tightness of connection in Battery charger.  |

Pl. Note that all above,

1. There activities and periodicity are minimum.
2. Any missing activities can be incorporated and implemented.
3. On checking the individual parameters, deficiency found shall be rectified immediately in a time bound manner.

*Abbreviations used :*

*PMI : Preventive Maintenance & Inspection*

*D : Daily, W : Weekly, M : Monthly, Q : Quarterly, H : Half Yearly*