DEENDAYAL PORT AUTHORITY
ISO 9001:2008 | ISO 14001 | ISPS Compliant Port

SIPC KANDLA

SAGARMALA

Office of Executive Engineer (Electrical), Ground Floor, Nirman Bhavan, New Kandla, Kutch, Pin Code 370210. Email: xenedpa@gmail.com

No.: EL/AC/2832 Date: 24/06/2024

EXPRESSION OF INTEREST [EOI] for "Comprehensive Maintenance Contract for HT & LT electrical installation at the RoRo Terminal at Ghogha"

(This EOI is issued to elicit Expression of Interest from the parties interested in the work and does not constitute any binding commitment from the Deendayal Port Authority to proceed with the work or invite any or all the parties in the subsequent bidding process. The Open Tenders will be issued subsequently.)

Executive Engineer (Electrical), DPA invites Expression of Interest for the work of "Comprehensive Maintenance Contract for HT & LT electrical installation at the RoRo Terminal at Ghogha" from the reputed firms from those who have executed similar work in Government/public sectors and other leading private organizations. The Expression of Interest (EOI) documents containing details of Scope of Work is enclosed herewith.

The interested firms are requested to submit their expression of interest for the said work in BOQ format at Annexure – I. The completed EOI (Expression of Interest) shall be submitted to the office of the undersigned on or before 08/07/2024. A soft copy of EOI is also acceptable through e-mail Ids. xenedpa@gmail.com & kumthekar999@gmail.com

-/sd

Executive Engineer (E)
Deendayal Port Authority

Scope of Work & Technical Specification

ANNEXURE – I

PART -A

Sr. No.	Description	Qty.	Unit	Rate in figure	Rate in words	Amount in Rupees
1	Deployment of electrical staffs on monthly basis as mentioned in scope of work along with two wheeler vehicle and cell phone at site. (1) Site in charge, 01 MD (2) Electrician, 01 MD (3) Wireman, 01 MD (4) Helper, 01 MD as per site requirement.	12	Month			
2	Maintenance/Breakdown/Replacement of HT & LT switchgear as shown in scope of work Part B on monthly basis strictly amounting to ₹ 60,000.00 for the RoRo Terminal at Ghogha as per the Scope of Work.	12	Month			
					Total(₹)	

I / we am / are willing to carry out this work at _____% above / below (percentage should be written in figure & words). The EOI rates mentioned above with amount of my/our EOI is put as under.

Estimated amount put to tender Rs. _____
Deduct _____% Below (-) Rs. _____
Net Amount Rs._____
In words. (Rupees_____)

Estimated amount put to tender Rs. _____
Deduct _____% Above (+) Rs. _____
Net Amount Rs._____
In words. (Rupees_____)

(In words Rupees _____only) (NOTE: The rates should be inclusive of all taxes, duties, fees, cess etc. and all incidental charges; but exclusive of GST).

-/sd

Signature & Seal of Firm

Executive Engineer (E)
Deendayal Port Authority

BOQ Contains Two Part, Part A Amount of Salary payable to staffs and Part B are the tentative materials use for the above CMC. Bidder has to bid Part B also and based on same L1 bidder will be declared.

PART B

AS & WHEN REQUIRED MATERIALS SHALL BE BROUGHT AS PER SITE REQUIREMENTS WHICH IS ON URGENCY, AS WILL BE DIRECTED BY THE EIC. ALSO, BEFORE COMMENCEMENT OF ANY MONTH, THE CONTRACTOR SHALL PLAN TO PURCHASE THE CONSUMABLE ITEMS WITH THE APPROVAL OF EIC.

Sr. No.	Item description	Quantities	Rate(Each)	Total Amount
1	11kV single pole rasin cast Potential Transformer as per existing site requirement/directed by EIC	06 No.		
2	11kV single pole rasin cast Current Transformer as per existing site requirement/directed by EIC	03 No.		
3	TNC Switch	02 No.		
4	Epoxy Insulator for HT Panel	04 No.		
5	SIEMENS VCB Breaker Closing Coil	01 No.		
6	SIEMENS VCB Breaker Tripping Coil	01 No.		
7	VCB Panel Analog Ammeter of size 96mm X 96mm	01 No.		
8	VCB Panel Analog Voltmeter of size 96mm X 96mm	01 No.		
9	Panel Indication Lamp	10 No.		
10	11kV Fuse for VCB Potential Transformer	05 No.		
11	Bus Bar Heat shrink tape(9m x 25mm) OR Higher	05 No.		
12	Bus Bar Spout	03 No.		
13	11KV Anti tracking Spray(250ml and above)	05 Tin		
14	Contact Cleaner(250ml and above)	20 Tin		
15	Panel Control Fuses(2A to 16A)	20 No.		
16	11KV Indoor end termination kit upto 3Cx150sqmm Aluminium XLPE Cable	02 No.		
17	11KV Outdoor end termination kit upto 3Cx150sqmm Aluminium XLPE Cable	04 No.		
18	Dropout Fuses Outdoor Type	20 No.		
19	Spares for Silent Generator of 320KVA Kirloskar- Quantity – 01			
19a	Air Filter As per original	02 No.		
19b	Oil Filter As per original	02 No.		
19c	Coolant	10 ltr.		
19d	DG Battery 24v, 150AH	04 No.		
19e	Battery Cable with Lug	02 Set		
19f	Engine Starter overhauling	02 No.		
19g	Kirloskar Engine Oil	100 ltr.		
19h	Fuel line nitrile rubber	05 mtr		
20	Spares for Silent Generator of 160KVA Kirloskar- Quantity – 02 No.			
20a	Air Filter As per original	02 No.		
20b	Oil Filter As per original	02 No.		
20c	Coolant	10 ltr.		
20d	DG Battery 24v, 150AH	04 No.		
20e	Battery Cable with Lug	02 Set		
20f	Engine Starter overhauling	02 No.		
20g	Kirloskar Engine Oil	100 ltr.		
21	Spares for Silent Generator of 62.5KVA Kirloskar- Quantity – 01			
21a	Air Filter As per original	02 No.		

21b	Oil Filter As per original	02 No.		
21c	Coolant	10 ltr.		
21d	DG Battery 12v, 150AH	04 No.		
21e	Battery Cable with Lug	02 Set		
21f	Engine Starter overhauling	02 No.		
21g	Kirloskar Engine Oil	100 ltr.		
22	Spares for APFC Panel 300KVAR			
22a	Master Controller	01 No.		
22b	50KVAR Capacitor Rectangular type heavy duty	01 No.		
22c	20KVAR Capacitor	01 No.		
22d	10KVAR Capacitor	01 No.		
22e	3-Phase 60KVAR Capacitor Contactor	01 No.		
22f	Capacitor Contactor Coil	01 No.		
22g	HRC Fuses	03 No.		
23	Spares for APFC Panel 110KVAR			
23a	Master Controller	01 No.		
23b	20KVAR Capacitor	01 No.		
23c	10KVAR Capacitor	01 No.		
23d	3-Phase 20KVAR Capacitor Contactor	01 No.		
23e	Capacitor Contactor Coil	01 No.		
23f	HRC Fuses	03 No.		
24	Spares for APFC Panel 80KVAR			
24a	Master Controller	01 No.		
24b	20KVAR Capacitor	01 No.		
24c	10KVAR Capacitor	01 No.		
24d	3-Phase 20KVAR Capacitor Contactor	01 No.		
24e	Capacitor Contactor Coil	01 No.		
24f	HRC Fuses	03 No.		
25	Spares for APFC Panel 40KVAR			
25a	Master Controller	01 No.		
25b	20KVAR Capacitor	01 No.		
25c	10KVAR Capacitor	01 No.		
25d	3-Phase 20KVAR Capacitor Contactor	01 No.		
25e	Capacitor Contactor Coil	01 No.		
25f	HRC Fuses	03 No.		
26	Spares Indoor Type Distribution Transformer 11KV/0.433KV, 630KVA ONAN			
26a	HT Bushing Packing	02 No.		
26b	LT Bushing Packing	02 No.		
26c	Transformer Oil	50 ltr.		
26d	Silica Gel	02 KG		
26e	Breather As per original	01 No.		
26f	Transformer Gasket of rubber cork sheet As per original measurement	01 No.		
26g	Temperature Gauge	NA		
27	Spares for Indoor Type Distribution Transformer 11KV/0.433KV, 100KVA ONAN			

27a	HT Bushing Packing	02 No.		
27b	LT Bushing Packing	02 No.		
27c	Transformer Oil	50 ltr.		
27d	Silica Gel	02 KG		
27e	Breather As per original	01 No.		
27f	Transformer Gasket of rubber cork sheet As per original measurement	01 No.		
27g	Temperature Gauge	NA		
28	Spares for Indoor Type Distribution Transformer 11KV/0.433KV, 200KVA ONAN			
28a	HT Bushing Packing	02 No.		
28b	LT Bushing Packing	02 No.		
28c	Transformer Oil	50 ltr.		
28d	Silica Gel	02 KG		
28e	Breather As per original	01 No.		
28f	Transformer Gasket of rubber cork sheet As per original measurement	01 No.		
28g	Temperature Gauge	NA		
	Spares for Compact Substation Distribution Transformer 11KV/0.433KV, 315KVA ONAN			
29a	HT Bushing Packing	02 No.		
29b	LT Bushing Packing	02 No.		
29c	Transformer Oil	50 ltr.		
29d	Silica Gel	02 KG		
29e	Breather As per original	01 No.		
29f	Transformer Gasket of rubber cork sheet As per original measurement	01 No.		
29g	Temperature Gauge	NA		
30	Spares for Distribution LT Panel 14Ways			
30a	1000A ACB Closing Coil, Make: Schnider	01 No.		
30b	DIN HRC fuse 160A 415V AC Size 00	03 No.		
30c	DIN HRC fuse 100A 415V AC Size 00	03 No.		
30d	DIN HRC fuse 63A 415V AC Size 00	03 No.		
30e	SFU 415V 50Hz AC 200A TP Panel Mounting Type	01 No.		
30f	SFU 415V 50Hz AC 400A TP Panel Mounting Type	01 No.		
30g	Panel Type Voltmeter 0 to 500V	01 No.		
30h	Panel Type Ampmeter 0 to 1000A	01 No.		
30i	Voltmeter Selector Switch	02 No.		
30j	Panel Indication Lamp	06 No.		
30k	MCCB C Curve 250A, 50Ka, 415V, 50Hz AC	01 No.		
31	Spares for Distribution LT Panel 15Ways			
31a	DIN HRC fuse 160A 415V AC Size 00	03 No.		
31b	DIN HRC fuse 100A 415V AC Size 00	03 No.		
31c	DIN HRC fuse 63A 415V AC Size 00	03 No.		
31d	SFU 415V 50Hz AC 200A TP Panel Mounting Type	01 No.		
31e	SFU 415V 50Hz AC 400A TP Panel Mounting Type	01 No.		
31f	Panel Type Voltmeter 0 to 500V	01 No.		
31g	Panel Type Ampmeter 0 to 1000A	01 No.		

31h	Voltmeter Selector Switch	02 No.		
31i	Panel Indication Lamp	06 No.		
30j	MCCB C Curve 400A, 50Ka, 415V, 50Hz AC	01 No.		
31	Spares for Distribution LT Panel 17Ways			
31a	DIN HRC fuse 160A 415V AC Size 00	03 No.		
31b	DIN HRC fuse 100A 415V AC Size 00	03 No.		
31c	DIN HRC fuse 63A 415V AC Size 00	03 No.		
31d	SFU 415V 50Hz AC 200A TP Panel Mounting Type	01 No.		
31e	SFU 415V 50Hz AC 400A TP Panel Mounting Type	01 No.		
31f	Panel Type Voltmeter 0 to 500V	01 No.		
31g	Panel Type Ampmeter 0 to 1000A	01 No.		
31h	Voltmeter Selector Switch	02 No.		
31i	Panel Indication Lamp	06 No.		
31j	MCCB C Curve 100A, 415V, 50Hz AC	01 No.		
32	Spares for Distribution LT Panel 11Ways			
32a	DIN HRC fuse 160A 415V AC Size 00	03 No.		
32b	DIN HRC fuse 100A 415V AC Size 00	03 No.		
32c	DIN HRC fuse 63A 415V AC Size 00	03 No.		
32d	SFU 415V 50Hz AC 200A TP Panel Mounting Type	01 No.		
32e	SFU 415V 50Hz AC 400A TP Panel Mounting Type	01 No.		
32f	Panel Type Voltmeter 0 to 500V	01 No.		
32g	Panel Type Ampmeter 0 to 1000A	01 No.		
32h	Voltmeter Selector Switch	02 No.		
32i	Panel Indication Lamp	06 No.		
32j	MCCB C Curve 200A, 415V, 50Hz AC	01 No.		

General Electrical items which are to be removed as when failed at site with intimation to EIC, DPA Members and thereafter to install the new one as per site requirement and the old one is to be deposited at the site of DPA.

Sr. No.	**Item description**	**Quantities**	**Rate**	**Amount**
1	Single Pole MCB 16A C Curve	05 No.		
2	Two Pole MCB 32A C Curve	05 No		
3	Four Pole MCB 40A C Curve legrand	05 No		
4	RCCB Four Pole 63A, 100mA	05 No.		
5	Hensel JB 17 inch x 11 inch with hinge & Cover having push button selector switch & ON/OFF indication	03 No.		

6	Hensel JB with connector for 10 to 16 sqmm type with model DK 3535G	10 No.		
7	Astronomical Timer	05 No.		
8	Three Phase Contactor 60A	05 No.		
9	Puff seal tin 250ml and above	20 No.		
10	PVC Tape in RYBB Color 1.80cmx7mx0.125mm	50 No.		
11	Street Light 70W Metal Housing	50 No.		
12	Flood light 100W Metal Housing	20 No.		
13	Swaged pole 6 meter size with JB and LED Street light 70W	15No		
14	Wall Mounting Fan 400mm sweep	05 No.		
15	Industrial Fan 24inch rewinding	10 No.		
16	Exhaust fan 230mm rewinding	05 No.		
17	Stainless steel screw of diff. sizes	10KG		
18	Stainless steel Hardware	10 KG		
19	2.5SQMM 3C Copper stranded flexible wire	100mtr		
19	New Earth Station with 3 mtr pipe in pipe GI 48mm and 76mm	05 No.		
20	Lug 6sqmm to 50sqmm	10 KG.		
21	Silver Paint	30 ltr		
22	Surge protection three pole	20 No.		
22	Driver LED light 70W	20 No.		
23	150W LED metal body fixture outdoor type	05 No.		
24	Two Module Fan Regulator	10 No.		
25	SP 1 Module Switch	10 No.		
26	6A Socket modular type 3 pin	10 No.		
27	Four feet LED tube light 22W and above	40 No.		
28	Four feet LED tube light 40W and above	40 No.		

Note: Consumables shall be arranged and maintained by Contractor throughout the AMC period. In addition to the above, if any material is required for smooth functioning of the system, which is not mentioned in the list, the same shall be arranged by the contractor at their own cost.

-/sd

Signature & Seal of Firm

Executive Engineer (E)
Deendayal Port Authority

SCOPE OF WORK

The Contractor shall undertake the work for a period of 12 months from the date of issuance of the Work Order which may extend for further period of one year on mutual consent and which same rates, terms & condition if agreed. The Contractor shall deploy qualified resources to successfully execute the task specified herein. The contract shall be purely comprehensive type with all the materials & labours.

This Comprehensive Maintenance Contract (CMC) shall be carried out on the basis of 24X7 at Ghogha Terminal. The CMC includes Periodical, Preventive and Breakdown Maintenance, fault finding & its rectification, attending of breakdowns, routine testing and cleaning of all electrical equipment's at RoRo Terminal, Ghogha. For First one month all the lighting complaints relates to illumination of jetty, pontoon, walk way and Terminal are to be attended and house keeping of electrical substation is to be looked after. Thereafter every month periodic maintenance & breakdown maintenance are to be carried out.

The Scope of Work includes maintenance of all electrical equipment like Sub-station equipment, HT & LT Panel boards, Distribution Transformers, Diesel Generator Sets, APFC Panels, Incoming & Outgoing Power & control cables, 30m High Mast Lighting Tower, Street Lights, power supply distribution & lighting of Pontoon Area, Jetty Road, Main Terminal Building area, Administration building area, Minor Building area, Workshop cum driver's lounge & Canteen, Guest Houses, Security Gates, Fire Pump House, all Substation building, STP Plant etc. including internal wiring & its accessories. The contractor shall follow the best industrial practice in maintenance of the equipment under this contract. The work has been segregated in two parts, Part A for staffs and Part B the material consumed at above site, The total monthly amount is strictly aggregated as ₹1,20,000 which includes salary of staffs as per ALC Wages and the material which is to be consumed on monthly basis, suppose if consumables reduces to any amount the same amount will be payable to the contractor after completion of each month, similarly the tools tackles and measuring instruments are in scope of contractor, Similarly one two wheeler of 100CC or above of 2024 RTO passing is to be arranged by contractor for movement of staff during urgency and it should be remain at the site. The two wheeler shall be with fuel, time to time maintenance, insurance etc, Keeping of Biometric Attendance Machine is in the scope of the Contractor.

Detailed Scope of Work:

1. Maintenance of 11/0.433 kV Sub-stations and associated equipment:

1.1 The maintenance work of the entire electrical distribution network consisting of Sub-station equipment, HT & LT Panel boards, Distribution Transformers, Diesel Generator Sets, APFC Panels, Incoming & Outgoing Power & control cables, 30m High Mast Lighting Tower, Street Lights, power supply distribution & lighting of Pontoon Area, Jetty Road, Main Terminal Building area, Administration building area, Minor Building area, Workshop cum driver's lounge & Canteen, Guest Houses, Security Gates, Fire Pump House, all Substation building, STP Plant etc. including internal wiring & its

accessories. The brief details of electrical equipment at RoRo Terminal, Ghogha is at Annexure – IV.

1.2 Contractor has to maintain Power factor of the complete installation by keeping check on all APFC Panel & has to fill HT PGVCL Card issued by them on monthly basis for check of power consumption. Maintenance of LT distribution panels including LT Air circuit breakers, LT meters, Relay Panels, control and power cables from transformers of 11 kV substations at RoRo Terminal, Ghogha.

1.3 Maintenance of substation power supply including substation housekeeping, the electrical maintenance inside substation for example light fixtures, switch & socket, MCB's, MCCB's, Panel indication lamp, fans, etc.

1.4 Maintenance of 30m High Mast Lighting Tower is in the scope of the contractor with required manpower, material & spares, tools & tackles (i.e. luminaries, gear box, DD Winch, Motor, with necessary gear oil, 400 Watt LED flood lamp, choke, igniter, capacitor, if required wire rope & trailing cable same shall be provided by contractor).

1.5 Maintenance includes filtration of transformer oil with top-up of Oil & BDV test within first 6 months on award of contract. The report shall be submitted by the contractor to the Engineer-In-Charge.

1.6 Relay testing and checking the settings of relays after period of six months from issue of work order. The report shall be submitted by the contractor to the Engineer-In-Charge.

1.7 Maintenance of any future installation of electrical equipment, done during the contract period, will be under the scope of the contractor for which no extra cost will be paid.

1.8 The contractor shall inform well in advance for taking power shut down as and when required for preventive/ periodical maintenance in order to intimate concerned Terminal Operator to enable them to make necessary arrangements during power shut down.

2. Breakdown Maintenance:

2.1 Under break down condition, fault /defect, once appeared/observed shall be identified, isolated, and rectified so that the failed equipment, machine, or system can be restored to an operational condition in a shortest possible time. However, defects which can be deferred for the regular periodic maintenance (provided it will not have any type of adverse effect on equipment) shall be recorded and reported in a suitable form for follow up action. Faults once observed shall be promptly attended and rectified to avoid major failures.

2.2 Periodical testing of equipment, troubleshooting as per Substation practices are carried out as per Annexure – II.

3. Tools/Tackles, Consumable & Spare:

3.1 Tools and tackles including, but not limited to, vacuum cleaners, blowers, welding sets, drilling machines, gas cutters, hydraulic/hand crimping machine/tools with set of dies, T&P, HT meggers, temporary lighting arrangement like extension boards and hand lamps, multi-meters, clamp meter, etc. shall be arranged by the contractor. List of tools and tackles is enclosed at Annexure – III.

4. Consumables:

The Consumables as per Part – B shall be arranged and maintained by the contractor as per site requirement. However minimum requirement of illumination light such as flood light, street lights, tube lights with 05 No. each is to be recouped every month

apart from same other materials will be plan accordingly as per site need. The lighting Material purchase by contractor should have guarantee of one year, in case of failure contractor will replace the same with free of cost. The stock is to be maintained same and invoices of each month shall be filed and verified by EIC. The deteriorated materials shall be handed over to DPA every month.

5. Vehicle for manpower and material:

Contractor shall arrange on its own cost a suitable Two wheeler of 100CC along with log book and same shall be maintained every month regarding plying of vehicle. Vehicle shall be of year 2024 RTO Passing with fuel and insurance all-inclusive to handle its manpower, material, tools & tackles. In case of any accident contractor will himself will responsible.

6. Providing 24x7 Communication aid:

The contractor shall provide one communication aids (Android Mobile) on 24 x 7 day basis for communication with the Site-In-Charge deployed at RoRo Terminal, Ghogha for ease of communication.

7. Documentation:

Substation Equipment's parameters should be recorded in daily logbooks, Complaint register. Contractor should maintain individual History Records for all critical equipment's, earth pits and other safety related items, this history record should have all the details of work carried out on day to day, monthly, quarterly, half yearly and yearly. Detailed inventory records like materials movement, material consumption, materials disposed etc. also should be maintained. The following registers are statuary requirement of contract and this will be regular inspected & verified by Engineer-in-charge & TPIA.

Maintenance (Planned /Preventive/ Breakdown) Register, Log Book for each substation.

a) Following Register shall be strictly maintained by the Contractor during O&M period as per the Contract Labour (Regulation & Abolition) Central Rules, 1971.
   - (i) Muster Roll Register i.e. Form No. 16
   - (ii) Register of Wages i.e. Form No. 17
   - (iii) Register of overtime i.e. Form No. 23
   - (iv) Register of advance pay i.e. Form No. 22
   - (v) Register of accident, major accident & dangerous occurrence i.e. Form No. 29
   - (vi) Register of Workman employed by Contractor i.e. Form No. 13.

b) Profile of staff personnel for this AMC.

c) Consumable, Tools and Plants.

All the documents prepared by the Contractor will be the property of DPA. The Contractor will not share the information contained in the above registers with any outside person without written permission of the EIC. Contractor shall hand over the logbooks and registers to DPA at the time of completion of contract period.

8. Deployment of Resources:

The Contractor shall have to deploy a Site-in-Charge who shall deal with Engineer-in-Charge, DPA for technical and administrative matters. However, during break-down/power interruption/emergency, the contractor may deploy more manpower, without any additional cost to reduce the down time of equipment as per site requirement.

Contractor shall deploy a team consisting of Site in Charge along with one Electrician, one Wireman and one Helper for carrying out the maintenance work as per the Scope of Work. The staff of the contractor should be provided with a standard uniform along with an engraved logo of the contractor firm for clear identification. Providing the PPEs for the staff engaged by the contractor would be the contractor's responsibility. DPA holds the right to penalize the individual staff engaged by the contractor if they miss-out on the uniform or appropriate PPEs, with a penalty of ₹500/- for Site in Charge and ₹250/- for other staff members after 3 consecutive warnings. The minimum qualification of manpower is given below:

(I) Minimum qualification of Manpower:

Designation	Qualification & Experience
Site In-Charge	B.E. (Electrical) with 2 years' experience /D.E.E. (Diploma) with 3 years' experience, having electrical supervisor license for maintenance of HT/LT substations from any reputed organization
Electrician	License holder of Electrician with 2 years' experience in the HT/LT line.
Wireman	License holder of Wireman with 1 years' experience in the LT line.
Helper	8th Pass with 1 year experience in HT/LT electrical installation in any reputed organization.

The general duty timing of above staff shall be from 09:30 am to 05:30 pm.

(II) Arrival & Departure of staff should be well-planned to up-keep the maintenance requirement. However, in case of exigency, the staff deployed by the contractor should attend the work immediately. The above staff shall be posted at Substation No. 1 or as decided by Engineer-In-Charge for carrying out day to day, planned, preventive & breakdown maintenance of 11/0.433 kV substations in consultation Engineer-in-charge or his representative. If the Contractor requires additional staff on any day/days for day to day preventive/breakdown maintenance, the same shall be arranged by Contractor at his own cost. However, due to the exigency of work, Contractor shall carry out or attend the fault during odd hours, Sunday & Holiday as directed without any financial implication to DPA.

(III) Contractor shall provide one **Biometric Attendance Machine** at the Substation for registering the attendance for both entry & exit of his entire staff. The monthly copy of the print out or as & when requires shall be submitted to the Engineer-In-Charge. An attendance register has to be maintained by contractor and the same would be verified by Engineer In-charge, DPA or his nominated representative as and when required.

(IV) It is fully the responsibility of the contractor to deploy qualified manpower having in-

hand experience, relevant License/Permit to handle electrical equipment, as applicable. They should be well conversant with Indian Standards, Indian Electricity Rule and Acts, as applicable should have knowledge of electrical and Industrial safety practices.

(V) Contractor shall 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 environment and reliable services.

(VI) If any of the staff member, appointed by contractor, is found to be 'not competent', he has to be replaced by a right person within a stipulated time (i.e. within a week period) as directed by Engineer In-charge. All the relevant documents pertaining to staff deployed, like copies of address proof, photocopy of ID card issued by the contractor and other details like Police verification from local police station is to be obtained before entering into the contract shall be provided by the contractor under his responsibility for the correctness.

(VII) Wages of the staff deployed should not be less than as that mentioned in Minimum Wage Act applicable to the respective category/experience, as on date. The ESI, PF, ELI, bonus etc., and labour law from time to time especially related to wages, other rules and norms requirement as found required for Contracts of this nature should be met. The same details shall be submitted to DPA after award the Work.

(VIII) In no case, the contractor or his/her employees shall claim job / employment with DPA. No transport/accomodation facility shall be provided for the contractor or his employees. It is purely contractor's responsibility to get his staff acquainted/trained with the site conditions, operation and maintenance procedure, equipment detail, safety devices, scope of work etc., Contractor will be responsible for any act of sabotage, misdeed, indiscipline, and negligence on the part of contractor or his employees.

(IX) If any employee/ staff resigns, then the replacement will be provided within 15 days periods, by the time other equivalent staffs shall be deployed on overtime till arrival of new staff.

DPA shall not be responsible for death, accident or injury to the contractor's employees engaged by him, which may arise in the course of their duty at RoRo Terminal, Ghogha premises, nor shall DPA be responsible and be liable to pay damages or compensation to such persons or to third parties. The contractor shall at all times indemnify and keep DPA indemnified against all claims which may be under the Workmen's Compensation Act, 1923, or any statutory modifications thereof or otherwise for or in respect of any damages or compensation payable in consequence of any accident or injury sustained by any workman or other person/ person at the Centre or premises, building, equipment etc. is attributable to the Contractor or his workmen, such damages shall be made good by the Contractor or his workmen, such damages shall be made good by the Contractor. Staff insuarance along with high height working shall be obtained by the contractor for the period of one year and work permit practice shall be adopted during maintenance of HT & LT, work permit will be issued by site incharge.

-/sd

Signature & Seal of Firm

Executive Engineer (E)
Deendayal Port Authority

ANNEXURE – II

INDICATIVE LIST OF MINOR WORKS, ROUTINE, PREVENTIVE MAINTENANCE & TESTING OF SUB-STATION'S EQUIPMENT

I. General Maintenance work at 11 kV Substations:

a. Ensuring proper locking of Substations, kiosks etc.

b. General cleaning of Sub-station (indoor, kiosk, plinth/pole mounted) & all equipment for proper housekeeping including removal of weeds grass, malba, any other vegetation, jallas (spider webs) and scavenging etc.

c. Coupling of the panel with Bus bar.

d. To test earthing & wherever result not found OK, to provide fresh ground earthing and to install additional earthing if required as per IS norms.

e. Plugging of cable entry points in the substation as and when required.

f. Providing earthing continuity of HT panel/ Distribution Transformer/ LT board and Switches and any other metallic part work with the existing running earth wire after proper binding/ cleating wherever required at site as directed by Engineer-In-Charge.

II. Distribution Transformers

A. Daily:

a. Observation of oil levels in conservator tank and examining for oil leaks, if any, from the transformer and to note down the voltage, current, PF in daily log book.

b. Checking the Color of silica gel in the breather and also oil level of the oil seal. If silica gel color changes from blue to pink by 50% the silica gel is to be replaced.

B. Monthly:

a. Cleaning of bushings and its oil level check, inspect for any cracks or chippings of the porcelain and checking of tightness of clamps and jumpers.

b. Cleaning of Silica gel breather.

c. Checking of temperature alarms by shorting contacts by operating the knob.

C. Six Monthly:

a. Measurement of Earth Resistance

b. Transformer Buchholz Alarm & Tripping Check.

c. Oil BDV Check

D. Yearly:

a. Oil filtration

b. Measurement of magnetizing current at normal tap and extreme taps.

c. Measurement of DC winding resistance.

d. Turns ratio test at all taps.

e. Changing the gaskets at all locations as when leakage is found or the gasket is

damaged or else yearly.

f. Replacing of Buchholz relay, OTI, WTI if found malfunctioning (material to be arranged by Contractor)

g. Replacement of bushing when required.

h. Measurement and recording of the IR value.

III. Vacuum Circuit Breakers of 11 kV Substation

A. Daily:

a. Check for load conditions on 3 phase, adjust relay settings, if necessary.

b. Examine the switchgear premises doors for general cleanliness.

B. Weekly:

a. Check that auxiliary fuses are intact.

b. Visual inspection to see that mechanism is in operating condition.

c. See that all power/control circuit switches are closed.

C. Monthly:

a. Air cleaning with blower.

b. Cleaning of circuit breaker body and bushings.

c. Tightening of nuts and bolts.

d. Checking breaker Operation (Local/Remote operation).

e. Check anti–condensation protection.

f. Check of motor control

g. Use of anti–corrosion spray where required.

D. Half-yearly:

a. Complete servicing, oiling and greasing of all moving parts.

b. Operation and control of Auxiliary circuits.
c. Tripping of Breaker through Relay
d. Checking of Interlocking
e. Checking of Relay Tripping
f. Checks on specific operations.

E. Yearly:
a. Checking contact resistance of Breaker main contact.
b. Mechanism checking and lubrication to all moving parts.
c. IR values of Power and Control Circuits.
d. Verification of correct rated operating sequence.
e. Checking and adjustment of Track alignment and Interlocking mechanism.

IV. LT Panel/ACDB with in substation

A. Daily:
a. Visual inspection
b. Check whether indication lamps, selector switch, TNC & all meters are working.

B. Quarterly:
a. Visual inspection of panels.
b. Checking and sealing of cable entry holes.
c. Checking of Indication lamps, replacement if required.
d. Checking of Indication Meter and rectification/replacement if, required.
e. Checking/replacement of fuses if required.
f. Checking of Bus bar connection, tightening of nut bolts, cleaning of bus bar if, required.
g. Cleaning and tightening of bus bar in the bus bar chamber.
h. Tightening of all earthing connections.
i. Cleaning of the inside and outside panels using blowers and vacuum cleaner.

C. Yearly:
a. Checking & ensuring the closing of the all panels doors including the supply of necessary material if required
b. Cleaning of circuit breakers, lubricating the moving parts as per maintenance procedure
c. Checking of alignment in racking mechanism of breakers for free and smooth movement of circuit breakers.
d. Checking of contact erosion of circuit breakers.
e. Checking of mechanical/electrical interlocks, interlocks within the switchboard to ensure proper functioning of same.

f. Functional operations check of limit switches, auxiliary contacts.

g. Visual inspection of earth connections and checking of tightness

h. Measurement of insulation resistance value of circuit breakers

i. Measurement of circuit breaker closing and tripping time.

j. Functional operations check of circuit breaker

k. During operation, any of the items found malfunctioning must be replaced. All material will be provided by contractor.

l. Measurement and recording of IR values for Main Bus bar.

m. Checking of all terminations for tightness.

n. Checking of CT and Relays connections for tightness.

o. Testing of all panel Relays and Meters CT.

V. Distribution System (MDBs and DBs):

A. Daily:

a. Visual inspection

B. Quarterly:

a. Check if all the panels are ingress protected.

b. Checking of termination of incoming and outgoing cables.

c. Routing of cables for new loads if required (only flexible cables and indoor).

d. At the time of adding new cable proper tags and ferruling must be done.

e. Cleaning of the panel.

f. Tightening of all earthling connections.

C. Repairs:

a. If any component is found malfunctioning it has to be replaced. Material will be provided by DPA.

VI. PROTECTION RELAYS

A. Quarterly:

a. Visual inspection and cleaning from outside.

B. Yearly:

a. Checking of each relay for its correct operation by secondary injection.

b. Cleaning of relay contacts.

c. Calibration of relay.

d. Checking of current/voltage setting as per recommended setting.

e. Checking of time characteristic as per recommended setting.

-/sd

Signature & Seal of Firm

Executive Engineer (E)
Deendayal Port Authority

ANNEXURE – III

INDICATIVE LIST OF TOOLS & TACKLES

The contractor shall maintain the following tools & tackles in healthy condition through the period of Contract.

Sr. No.	Description	Quantity
1	25 feet height Wheel Mounted Portable Aluminium Tower Ladder(on rental basis)	1 No.
2	Line tester	1 No.
3	Test lamps with 2x200W lamps in series	1 No.
4	Test lamp with 2 nos. spare 60W B/C lamps	1 No.
5	Drill machine with bits	1 No.
6	Power operated hand blower	1 No.
7	Insulated combination pliers 150mm, 250mm	1 No. each
8	Nut Driver 4mm – 10 mm	1 No.
9	Allen Key set	1 No.
10	Megger 1000 V (Hand driven) and 1 kV (Hand driven) of reputed make	1 No. each
11	Earth Tester	1 No.
12	Digital multi meter (3.5-digit precision multi meter of Fluke /Yokogawa/ Hoiki make	1 No.
13	Clamp on Meter for current measurement (one micro to 2 A range & one up to 1000A range)	1 No.
14	Wire Brush for cleaning Hacksaw frame and blades	1 No.
15	Earthing rod	2 No.
16	Crimping machine/Tools for cables and conductors (up to 185 sq.mm. cable size)	1 No.
17	Power extension Board	1 No.
18	Air blower	1 No.
19	Hot Air Blower	1 No.
20	Industrial Vacuum Cleaner	1 No.
21	Equipment for digging kaccha / pakka, bitumen roads for attending underground faults	As per requirement
22	Complete set of all sizes of double ended, Ring, Tubular & box spanners	1 Set each
23	Complete set of all sizes of screw drives	1 Set

24	Heavy duty insulated hand gloves suitable for working voltage of 22kV/11KV system	3 Set
25	Safety Belts/ harness	1 No.
27	Heavy duty dry cell or rechargeable (without acid) torches.	2 No.
28	First aid box with recommended medicine	1 No.
29	Safety google	4 No.
30	Reflective Jacket	4 No.
31	Safety rope and Belt	2 No.
32	Insulated Cutting plier	1 No.
33	Torque Wrench	1 Set
34	8 feet Aluminium Ladder	1 No.
35	Electric Concrete Braker	1 No.
36	11KV Safety Hand Glows	1 Pair
37	HT Insulation Mat	4 Sqmt.
38	Tarpulin 8feet x 5feet 200 GSM	02 No.
39	Electric Shock & Treatment Frame of suitable size	04 No.

Note: Tools and tackles shall be arranged and maintained by Contractor. In addition to the above, if any material is required for smooth functioning of the system, which is not mentioned in the list, the same shall be arranged by the contractor at their own cost.

-/sd

Signature & Seal of Firm

Executive Engineer (E)
Deendayal Port Authority

ANNEXURE – IV

List of Equipment at Ro-Ro Terminal, Ghogha:

The detail of installation of HT & LT Electrical Equipment, Distribution Transformer & CompactSubstation at Ro-Ro Terminal, Ghogha are as below:

Substation No. 1

HT Panel:

HT Circuit Breaker	Type of Feeder	Description
I/C	Incomer	11KV, 800A VCB HT Panel
O/G-1	Outgoing – 1	11KV, 800A VCB HT Panel (Cable to Substation No. 1, 630KVA Transformer, Main Terminal Building Area)
O/G-2	Outgoing – 2	11KV, 800A VCB HT Panel (Cable to Substation No. 2, 200KVA Transformer, Administration Building Area)
O/G-3	Outgoing – 3	11KV, 800A VCB HT Panel (Cable to Substation No. 3, 100KVA Transformer, Workshop Area)
O/G-4	Outgoing – 4	11KV, 800A VCB HT Panel (Cable to Substation No. 4, 315KVA Transformer, Link Span Area)
-	-	PT Compartment

Distribution Transformer:

630kVA, 11/0.433kV,

Make: Sudhir.

LT Panel:

Sr. No.	LT Panel Incomer	Feeder Tag
1	Rating:	4 Nos. Main Bus Bar chamber
2	Incomer 1: 1000 Amp	Cable Alley
3	Incomer 2: 500 Amp	APFC Panel
4		Spare
5		High mast
6		3 Nos. Vacant Box
7		2 Nos. Busbar Alley
8		Metering I/C – 1
9		Incomer – 1
10		Ext.LDB – 2
11		Metering for B/C
12		Bus Coupler
13		SWT
14		Metering for I/C – 2
15		Incomer – 2
16		Cable Alley
17		FWPH DB

18		Spare
19		MTB Raw Power DB – 1
20		MTB Raw Power DB – 2
21		MTB HVAC LDB – 1
22		Spare
23		Spare
24		MTB HVAC DB – 2
25		MTB LDB – 2
26		Bus Bar Alley

APFC Panel:

Sr. No.	Description
1	Capacitor Bank – 1, 50 KVAR (Auto/Off/man. Switch)
2	Capacitor Bank – 2, 50 KVAR (Auto/Off/man. Switch)
3	Capacitor Bank – 3, 50 KVAR (Auto/Off/man. Switch)
4	Capacitor Bank – 4, 50 KVAR (Auto/Off/man. Switch)
5	Capacitor Bank – 5, 20 KVAR (Auto/Off/man. Switch)
6	Capacitor Bank – 6, 10 KVAR (Auto/Off/man. Switch)
7	Capacitor Bank – 7, 50 KVAR (Auto/Off/man. Switch)
8	Capacitor Bank – 8, 20 KVAR (Auto/Off/man. Switch)

Diesel Generator Set:

320 kVA, Type: Outdoor,

Make: Kirloskar

Fire Extinguisher:

3 Nos. Fire Extinguisher 5 kg

1 No. Fire Extinguisher 6.5 kg

Substation No. 2

Distribution Transformer:

100kVA, 11/0.433kV,

Make: Sudhir.

LT Panel:

Sr. No.	LT Panel Incomer	Feeder Tag
1	Rating: Incomer 1: 200 Amp Incomer 2: 100 Amp	03 Nos. Main Bus Bar chamber
2		02 Nos. Cable Alley
3		APFC Panel
4		Workshop Area Power DB
5		Spare
6		Spare
7		Vacant Box,
8		Busbar Alley
9		Metering for I/C – 1
10		Incomer – 1
11		Metering for B/C
12		Bus Coupler
13		Metering for I/C – 2
14		Incomer – 2
15		Bus bar Alley
16		Spare
17		Spare
18		Workshop LDB
19		Ext. LDB – 2
20		Spare
21		Spare
22		Ext. LDB – 03
23		Spare
24		Spare

APFC Panel:

Sr. No.	Description
1	APFC Relay
2	7 Nos. Capacitor (Auto/off/Man.), 80 KVAR Capacitor Bank

Diesel Generator Set:

62.5 kVA, Type: Outdoor,

Make: Kirloskar

Fire Extinguisher:

3 Nos. Fire Extinguisher 5 kg

1 No. Fire Extinguisher 6.5 kg

Substation No. 3

Distribution Transformer:

200kVA, 11/0.433kV,

Make: Sudhir.

LT Panel:

Sr. No.	LT Panel Incomer	Feeder Tag
1	Rating:	03 Nos. Main Bus Bar Chamber
2	Incomer 1: 315 Amp	02 Nos. Cable Alley Both Side
3	Incomer 2: 250 Amp	APFC Panel
4		Admin Building HVAC DB
5		Spare
6		02 Nos. Vacant Box
7		02 Nos. Bus Bar Alley
8		Metering for Incomer – 1
9		Incomer – 1
10		Metering for Bus Coupler
11		Bus Coupler
12		Admin LDB
13		Metering for Incomer -2
14		Incomer – 2
15		Spare
16		Water Tower DB
17		Spare
18		Admin Building Power DB
19		Spare
20		Spare
21		Lighting DB in water tank room
22		Ext LDB – 4
23		Spare
24		Security Cabin & Police Station
25		Spare

APFC Panel:

Sr. No.	Description
1	APFC Relay
2	05 Nos. Capacitor(Auto/Off/main), 40 KVAR Capacitor Bank

Diesel Generator Set:

160 kVA, Type: Outdoor,

Make: Kirloskar

Fire Extinguisher:

3 Nos. Fire Extinguisher 5 kg

1 No. Fire Extinguisher 6.5 kg

Substation No. 4

Compact Substation:

315kVA, 11/0.433kV Compact Substation, Type: Outdoor,

Make: Kirloskar.

LT Panel (Installation inside Container):

Sr. No.	LT Panel Incomer	Feeder Tag
1	Rating:	3 Nos. Main Bus Bar Chamber
2	Incomer 1: 500 Amp	2 Nos. Cable Alley
3	Incomer 2: 315 Amp	APFC Panel
4		Pontoon PDB cum Shore Power
5		Spare
6		Vacant Box
7		Metering for I/C – 1
8		Incomer – 1
9		Metering for B/C
10		Bus Coupler
11		Metering for I/C – 2
12		Incomer – 2
13		2 Nos. Bus Bar Alley
14		Spare
15		Pontoon Pump load DB
16		Ext LDB
17		Spare
18		Spare
19		Spare
20		Spare

APFC Panel:

Sr. No.	Description
1	APFC Relay
2	6 Nos. Capacitor (Auto/Off/Man), 110 KVAR Capacitor Bank

Diesel Generator Set:

160 kVA, Type: Outdoor,

Make: Kirloskar

Fire Extinguisher:

1 No. Fire Extinguisher 6.5 kg

The details of miscellaneous Electrical Installation at Ro-Ro Terminal:

Sr. No.	Miscellaneous	Description
1	Substation No. 1	External Lighting DB (1) 7 Nos. Single Pole 6A MCB (2) 1 No. Four Pole 25A ELCB
2	Substation No. 3	Street Light DB (1) 10 Nos. 3 Pole 32A MCB (2) Single Phase Digital Timer (3) 40A Contractor (4) 50A 4 Pole Main MCB Station Internal Lighting (1) 6 Nos. Single Pole 6A MCB (2) 1 No. 4 Pole 25A ELCB
3	Substation No. 4	Jetty Road Lighting DB (1) Main Incomer 63Amp MCB (2) 3 Nos. Pole 32Amp MCB (3) 2 Pole 25A ELCB
4	Workshop cum Driver's lounge & Canteen	Workshop cum Driver's lounge & Canteen (1) 1 No. main incomer 32A MCB (2) 3 Nos. 25A ELCB (3) 8 Nos. LED 70W (4) 12 Nos. Tube Light 20W (5) 2 Nos. wall mounted Fan Street Light DB (Workshop/ Canteen) (1) 1 No. 50A MCB Main Incomer (2) 10 Nos. 32A MCB (3) Timer 16A, Contactor 40A
5	Fire Pump	(1) Metering Analog (2) 200A TP MCCB Main incomer (3) Vacant Box
		(4) Bus coupler (5) 20A DP MCB Diesel Engine Control Panel (DG Pump feeder) (6) 160A TP MCCB Main Pump (7) 63A TP MCCB Jockey Pump (8) Cable Alley
6	Lighting Installation	(1) There are approximately 167 Nos. of Street Light Poles with LED & HPSV Light Fittings. (2) 1 No. 30m High Mast Lighting Tower with 20 Nos. 2x400W LED Flood lights Conventional Light Fittings.

TERMS AND CONDITIONS

1. Time Schedule: The Maintenance Contract shall be for 12 months from the date of issue of Work Order. The CMC may be extended for further period of up to 12 monthsby DPA with the same rate, terms & conditions with mutual consent of the Contractor.
2. The bidder, at his own responsibility and risk is encouraged to visit and examine the site of work and its surroundings and obtain all information that may be necessary forpreparing the offer. The costs of visiting the site shall be at the firm's own expense.
3. DPA will award the work to the bidder whose bid has been evaluated to be techno –commercially responsive and the lowest evaluated amount bid.
4. The rates should be quoted in figures and words both. In case of difference in figure& words, the rate mentioned in words will be considered.
5. The firm shall affix SEAL along with SIGNATURE in the Offer.
6. The work shall be carried out in accordance with the best standards of workmanshipand to the entire satisfaction of the Engineer in-Charge.
7. Security Deposit @ 5% recovered from the bill and the SD can be released only aftersuccessful completion of guarantee period.
8. Payments Terms:

   100% monthly payment shall be released on submission of bill along with necessary supporting documents in the prescribed format along with invoice in triplicate after inspection & certification of the same by Third Party Inspection Agency.

   All payments shall be made in Indian rupees unless specifically mentioned.
9. Payment will be made by RTGS only after satisfactory completion of work and submission of duly signed bill.

10. Shortfall of staff:

In case of any shortfall in deployment of maintenance staff at site of work mentioned in the scope of work, a penalty amounting to ₹1000/- per day for Site-in-Charge, ₹800/- per day for Electrician, ₹700/- per day for Wireman and ₹500/- day for Helper shall be deducted from the monthly bill of contractor.

11. Restoration of HT power supply:

In case, the contractor fails to restore the HT power supply within stipulated time period of 6 hrs after intimation from Engineer-in-Charge (through mobile/text message/email or through any other mode of communication) except for major breakdown like cable fault/ transformer fault/ VCB fault, PGVCL incomer failure, the Penalty of ₹1000 per hour shall be levied till the restoration of power.

12. Restoration in LT power supply:

In case, the contractor fails to restore the LT power supply within stipulated time period 4 hrs after intimation from Engineer-in-Charge (through mobile/text message/email or through any other mode of communication) except for major breakdown like cable fault/ transformer fault/ VCB fault, PGVCL incomer failure the penalty of ₹500 per hour shall be levied till the restoration of power.

12a **Restoration of Jetty/Terminal upto walk way Illumination**

In case, the contractor fails to restore the Illumination within stipulated time period 4 hrs after intimation from Engineer-in-Charge (through mobile/text message/email or through any other mode of communication) except for major breakdown like cable fault/ transformer fault/ VCB fault, PGVCL incomer failure the penalty of ₹500 per hour shall be levied till the restoration of Illumination.

13. The contractor shall not deposit any materials at such a place that may cause inconvenience to the public or staff or nearby offices.

14. The Contractor shall execute the work in such a way that not to cause inconvenience to the public or staff or nearby offices and not to cause hindrance to traffic. Necessary barricading shall be done by the contractor at his own cost if required.

15. All tools, plants, scaffolding, ladder etc. and other machinery etc. required temporary for the purpose of execution of work will have to be arranged by the contractor at his own cost and storing of such tools, plants etc. will have to be made by him.

16. Any material to be used in maintenance shall be as per the approved make list.

17. Correction if any should be signed / initialed by the contractor. White ink correction will not be allowed and lead to rejection of quotation.

18. All the rules and regulations governing DPA will be applicable.

19. After completion of the work, the site should be neatly cleaned by the contractor.

20. The contractor shall ensure not to cause any damages to the port/Terminal properties in the vicinity of work site during execution of work. If any damage occurs due to workmen/machinery of the contractor, the contractor has to make good the loss / damage at his cost.

21. For Entry & exist of material and contractor personnel, pass shall be arranged by contractor.

22. The contractor shall quote the price exclusive of GST. The contractor shall quote prevailing GST rate separately, which shall be reimbursed by DPA after ascertaining necessary compliance as per Goods & Service Tax, 2017. All other duties, taxes, cesses applicable if any, shall be borne by the contractor.

    Income-Tax deductions and surcharge as applicable thereon shall be made good while making payments due to the contractor for carrying out the work and only net amount shall be paid as directed by the Central Board of Direct Taxes, Ministry of Finance, Government of India.

    The rates quoted by the contractor shall be deemed to be inclusive of the taxes, duties etc. which the contractor will have to pay for the performance of this contract, except GST. The employer will perform such duties in regard to the deduction of such taxes at sources as per applicable law.

23. All the work shall be carried out to the entire satisfaction of Engineer in Charge.

-/sd

Signature & Seal of Firm **Executive Engineer (E)**

Deendayal Port Authorit