

Scope of Work for Annual Maintenance Contract of Data Center Infrastructure, BMS Manpower at Corporate Data Center Sewree, BPCL 01-07-2017 to 30-06-2020

INDEX

1. SECTION I: Statement of Work
 - 1.1 Introduction
 - 1.2 Purpose of Tender
2. SECTION -II: Existing Infrastructure
3. SECTION -III:
 - 3.1 AMC Overview
4. SECTION -IV: Scope of work
 - 4.1 Electrical works – General for Uninterruptible Power Supply → BEST
 - 4.2 Electricals: 500 KVA Kirloskar DG sets
 - 4.3 LT Panels
 - 4.4 ASCO Switch
 - 4.5 UPS System
 - 4.6 Precision AC
 - 4.7 Comfort AC
 - 4.8 Distribution Boxes for Electrical Power Supply
 - 4.9 Fire & Safety Systems
 - 4.10 Security & CCTV System
 - 4.11 BMS Operations
 - Access Control System
 - BMS Administration

- Public Address System
- Earth Pit Maintenance

4.12 BMS Manpower

5. SECTION –V: General Terms & Conditions.

6. Other Terms & Conditions

7. Executive summary and write-up on the proposal.

8. Deviations from Objectives.

9. Service Level agreement.

1. Section I - STATEMENT OF WORK

1.1 INTRODUCTION

BPCL is one of the leading Oil Marketing Companies in India with a retail chain of more than 13000 Retail Outlets (ROs), about 4500 LPG Distributors and 300 offices spread across length and breadth of the country. The state of art Corporate Data Centre (CDC), Sewree Mumbai, the primary Data Center (DC), in BPCL is involved in IT services besides providing network connectivity to its offices across India. BPCL intends to utilize existing infrastructure to support Data Center related services for hosting various Servers & Application in DC.

1.2 PURPOSE OF TENDER

BPCL is issuing the current RFP to provide Manpower for managing Building Management System (BMS) and Annual maintenance contract (AMC) for 24x7x365 supporting various utilities and infrastructure services as per following detailed scope of work (SOW) & General Terms & conditions for state of art data center situated at Sewree, Mumbai.

2. Section II - EXISTING INFRASTRUCTURE OF BPCL, CORPORATE DATA CENTER, Sewree, and Mumbai (All are under AMC contract with Third Party)

S.No	Description of Equipment	Qty
1	BEST Isolator System Consisting of 3x400Amps Isolators (HRC Fuses)	3
2	BEST Bus Bar Chamber consisting of 3 Incoming Cables and 6 Outgoing Cables and 800/5 A Current Transformer	1

3	BEST Main Panel in DG Room consisting of 800Amps Motorised MCCBs, 800 Amps BUS Couplers, 800Amps MCCBs, 400Amps MCCB and other MCBs with Programmable Logic Control Unit, TVSS	1
4	Auto Power Factor Control Panel consisting of 400Amps MCCB, 25KVAR Capacitors and other MCBs.	1
5	Kirloskar make 500KVA Diesel Generator with DG Panels	2
6	LT Panel 1 and LT Panel 2	2
7	400Amps ASCO Switch (Input from LT1 & LT2, Output to UPS2)	1
8	Emerson (DB Power) make 200KVA UPS	3
9	Emerson Mega Switch for 200KVA UPS	1
10	Emerson (DB Power) make 10 KVA UPS	2
11	DB Make INSTA Switches (Static Switch) in Network Room	9
12	Precision AC DB Panels 2 Nos. in Server Room, 1 no. in UPS	3
13	Emerson Precision ACs (Capacity 20TR+12.5TR+5TR)	10
14	Blue Star make Comfort AC (Capacity 1 x 8.3TR CDC Hall, 4 x 3TR CDC Hall/ Monitoring Room, Conference Room Dy.Mgrs. Cabin, + 4 x 2TR (Telecom Room) + 2 x 1.5TR BMS Room)	11
15	Distribution Panels 25 nos. consisting of 486 nos. of MCBs of various Capacity	Set
16	Fire & Safety Very Early Smoke Detection Aspirators (VESDA)	3
17	Fire suppression Systems FM200 with panels (GAS NAF S125) Cylinders (Make EUROPLEX TECHNOLOGIES)	8 Cylinders
18	Fire & Safety Smoke Detectors, RAT Repellants (Make Maser Electronics (P) Ltd.	140 & 240
19	Water Leakage Detection (WLD) system	2
20	Fire Extinguishers A B C Type	30
21	Security Systems - 3 x 24 port DVR (Make SCHLAGE SVMS-16-ME-XT-A) and 34 nos. CCTV cameras (Siemens, Iball, HIK Vision)	1 set
22	Interflex make Access Control Devices and Software	19 Doors
23	Trane make BMS Software with Desktop PC	Set
24	Public Address System (1no. 250Watts Ahuja Amplifier, 18 nos. 10Watts Ahuja Ceiling mounted Speakers, 2 nos. HORN Speakers, 1 no. Shure Mic, Portable Amplifier Speaker system)	Set
25	Earth Pits of GI Pipe and Copper Plate	20
26	BMS Operators (24x7 x 3 shifts) – One in 1 st shift, One in 2 nd shift and Two in Third (Night) Shift	4
27	BMS Supervisor – Monday to Saturday – 9.00 AM to 6.00 PM	1

SECTION III -

3.1 AMC Overview

BPCL is looking for CDC (Corporate Data Center, Sewree, Mumbai) comprehensive AMC services & BMS manpower support for a **period of 3 years** as per details given below:

4. SECTION -IV: Scope of work

Scope of work for utilities and equipments installed at CDC for subject AMC for 3 years is given as under:-

4.1. Electrical –General for Uninterruptible Power Supply → BEST Power

Vendor should carry out comprehensive AMC & perform the preventive maintenance of following systems on quarterly basis:

- 4.1.1 BEST Isolators (for Incoming from BEST Transformer) 3 nos. (RYB) x 400AMPs (each contains 3x400Amps HRC Fuse).
- 4.1.2 BEST Bus Chamber consisting 3x300 sqmm. Aluminium Armoured Incoming cables from BEST Isolator and 6x300sqmm Aluminium Armoured Outgoing cables to BEST Panel (**Commissioned during January 2016**).
- 4.1.3 BEST incomer Power Panel (**Commissioned during January 2016**) manufactured by M/s. Power Switchgear & Controls, Dombivli (East) consisting the following:-

BEST Incomer & Output Panel consisting EB1 Input and EB2 Input	Make	Qty
800 Amps Motorized MCCBs for EB1 incomer, EB2 incomer, DG1 Incomer and DG2 Incomer	L&T	4
800Amps Motorized MCCBs Bus Couplers	L&T	2
800 Amp MCCBs for Output LT1 and Output LT2	L&T	2
400 Amp MCCB for APFC Panel [8 Numbers capacitors of 25 KVAR]	L&T	1
63Amps 4Pole MCB for Yard Lighting	L&T	1
63Amps 2Pole MCB	L&T	1
32Amps 2Pole MCB	L&T	3
6 Amp MCBs for Panel Indicator Lights		24
Programmable Logic Control Unit		1

Vendor should ensure that once in 6 months, BEST incoming Power is fed through EB1 and EB2 alternately. In case of any customization in PLC or issue with Programmable Logic Control Unit, Vendor should be able to rectify the same immediately.

Single Line Diagram [SLD] for the panels is enclosed as ANNEXURE I and the details of the cables utilized for the panels is given in ANNEXURE II.

4.1.4 Auto Power Factor Control Panel mainly consisting the following

Auto Power Factor Control Panel	Make	Qty
400 Amp MCCB	L&T	1
25KVAR Capacitors		8
100Amps MCB		8
10 Amp Contactor MOC 25		8

4.2 Kirloskar Make 2 x 400KVA DG sets

Vendor should carry out comprehensive AMC & preventive maintenance of following system on quarterly basis

- 2 nos. 500 KVA Kirloskar DG sets: Commissioned during 2006
- Number of hours of running completed as on 25/04/2017 **DG1 = 328 hours**
- Number of hours of running completed as on 25/04/2017 **DG2 = 234 hours**

- 4.2.1 Quarterly Preventive Maintenance of all DGs.
- 4.2.2 Maintenance of DG Set will be carried out as per manufacturer's standard practice.
- 4.2.3 Diesel required to run the DGs shall be provided by BPCL.
- 4.2.4 Necessary Coolant, Oil and Consumables should be provided by Vendor.
- 4.2.5 Routine Maintenance as per Kirloskar's and replacement of consumables as per Kirloskar's guidelines enclosed (**Annexure III**) are to be carried out.
- 4.2.6 Attend to all electrical and mechanical breakdowns.
- 4.2.7 Any repair job should be carried out without any additional cost to BPCL.
- 4.2.8 Overhauling of DG is not covered under the scope of Contract.
- 4.2.9 Replacement of 12V 180AH Battery inside the DGs is not covered under the scope of contract.
- 4.2.10 Battery Charger is covered under the scope of this contract.
- 4.2.11 Relays and Electronic Circuits are covered under the scope of contract.
- 4.2.12 Vendor/party should provide cost of excluded Items in advance (if any) and vendor should clearly mention all Exceptions and deviations. Reference for any exceptions will be Tender document and not the industry practice.
- 4.2.13 Submission of Call sheets & reports

4.2.14 DG AMF Panels mainly consisting the following:-

DG AMF Panel	Make	Qty
--------------	------	-----

800 Amp Air Circuit Breaker	L&T	2
Generating Set Controller	Narendra	2
Voltage Sensing Relay		2

4.2.15

Hooter panel consisting of relays with Hooter Speaker 2 No.

4.3 LT Panels:-

4.3.1 LT 1 Power Distribution Panel to Data Centre

LT1 Panel consisting of	Make	Qty
800 Amp MCCBs for Incomer, ATS Motor	Legrand	2
400Amps MCCBs for ASCO, UPS1A, Spare	Legrand	3
250 Amp MCCBs for PAC	Legrand	2
125 Amp MCCB for CAC Gr. And First Flr.	Legrand	2
100 Amps MCCB for PAC	Legrand	2
63 Amps MCB for Lift, CAC, Work Station	Legrand	5
40 Amp MCBs Lighting (Ground +First Floor) & 1no. 10KVA UPS	Legrand	7
6 Amp MCBs for Panel Indicator Lights		24

Once in a year, Shutdown of LT1 panel should be done and maintenance of this panel has to be carried out as per Standard Operating Procedure of LT Panels.

4.3.2 LT2 – Power Distribution Panel to Data Centre (Installed during January 2016)

LT2 Panel consisting of	Make	Qty
800 Amp 3Pole MCCB for Incomer	L&T	1
400Amps 3Pole MCCBs for ASCO, UPS1B, Spare	L&T	3
250 Amps 3Pole MCCBs for PAC DBs in Server Room	L&T	2
100 Amp 3Pole MCCB for PAC is Spare	L&T	1
125 Amps 3Pole MCCB for DB Panel in UPS Room	L&T	1
63 Amps 4 Pole MCBs (1 no. for 10KVA UPS, 1 no. Spare)	L&T	2
6 Amp MCBs for Panel Indicator Lights		10

Once in a year, Shutdown of LT2 panel should be done and maintenance of this panel has to be carried out as per Standard Operating Procedure of LT Panels.

4.4 ASCO Switch 400Amps:- (Input from LT1 & LT2, Output to UPS2) Installed during January 2016.

Check and ensure the settings are as per CDC's SOP.

4.5 UPS systems

Vendor should carry out comprehensive AMC & preventive maintenance of following systems on quarterly basis:

- 200KVA DB power/Emerson UPS system (Commissioned during March 2006) - 3 nos.
 - Currently the load on each of UPS 1 and UPS 3 is approximately 25%.
- 10KVA DB power/Emerson UPS system (Commissioned during March 2006)-2 nos.
- DB Make MSW3300 model **Mega Switch** (Commissioned during March 2006) – 1 no.
- UPS 1A and UPS 1B (2 x 200KVA UPS) have backup Batteries each of 68 Nos. 12V 200AH Make Amara Raja, Model - Quanta SMF Batteries.
- UPS 2 has backup Batteries of 204 nos. 2V 760AH VRLA Batteries of M/s.HBL Power Systems Ltd.
- 3 nos. x Battery Termination Box consisting of 1 no. x 630Amps MCCB LG make for 3x200KVA UPS Systems.
- 2 Nos. Termination Boxes with Semiconductor fuse 400 Amp for each Battery Bank of 2x200KVA UPS system.
- 2x10KVA UPS systems has batteries each of 20 nos. x 12V/42AH Make Amara Raja, Model - Quanta SMF UPS Batteries.
- 2 nos. x Battery Termination Box consisting of 1 no. x 60 Amps MCCB LG Make for 2x10KVA UPS Systems.
- All Batteries are to be tested for its individual voltage during each Preventive Maintenance.
- All Battery banks are to be tested for its full Load testing.
- 9 nos. of DB Make INSTA Switches (Static Switch) in Network Room (2006 model)
- Vendor should Include AMC for 100% parts coverage. Unlimited Break Down calls includes 100% labor and travel coverage. AMC also Includes Four Pre-Scheduled Quarterly Preventive Maintenance Service per year.
- **Vendor should provide 1 no. Blower Fan for 200KVA UPS to be kept as Standby in Corporate Data Centre as a preventive measure, within 15 days of award of Contract.**
- The following are excluded under comprehensive AMC but these need to be checked during quarterly preventive maintenance and report to be submitted.
 - Condenser Coil of Precision ACs.
 - Cooling Coil of Precision ACs.
 - Refilling of GAS NFS125.
 - Transformer in UPS.
 - Capacitors in UPS [were replaced during April 2015]
 - Batteries of UPS Systems.

The preventive maintenance of UPS System includes the following

- 4.5.1 Checking of tightness of all power & control connections
- 4.5.2 Charger Settings
- 4.5.3 Inverter Settings
- 4.5.4 Rectifier settings
- 4.5.5 Battery bank health check including impedance check
- 4.5.6 Mode operation check
- 4.5.7 Check of all indications & cooling fans
- 4.5.8 Calibration/Settings of UPS parameters whenever required
- 4.5.9 9 nos. of DB Make INSTA Switches (Static Switch) in Network Room →
Check all the indicators and Fuse.

✓ Submission of Call sheets & reports

4.6 Precision AC DB Panels:

4.6.1 DB Panels 2 Nos. Consisting of 8 nos. x 80Amps 3Pole MCCB in Server Room,

4.6.2 DB Panel 1 no. Consisting of 3 nos. x 63Amps 3 Pole MCCB in UPS room.

4.7 Precision ACs

Vendor should carry out comprehensive AMC & preventive maintenance of following systems on quarterly basis:

- Precision AC (Emerson) – 20 TR – 6 nos.
- Precision AC (Emerson) –12.5 TR –2 nos.
- Precision AC (Emerson) –5 TR – 2 nos.

Replacement of all filters in Precision ACs is covered under this AMC.

The preventive maintenance includes the following

- 4.7.1 Cleaning up of unit & Air filter
- 4.7.2 Cleaning of cooling coil and condenser coil
- 4.7.3 Cleaning of humidifier bottle and electrodes
- 4.7.4 Cleaning of water supply strainer and drain inside the machine
- 4.7.5 Checking of driver belt & replace if necessary
- 4.7.6 Lubrication of bearings if necessary
- 4.7.7 Checking up of operating of unit, controller and condenser
- 4.7.8 Combing of fins of condenser & evaporate coil if necessary

- 4.7.9 Measurement of current for all individual equipments
- 4.7.10 Checking of all overall relay settings
- 4.7.11 Checking of all electrical components for loose connections & lighting if necessary
- 4.7.12 Checking of refrigeration piping for gas leakage
- 4.7.13 Checking of pulleys, motor mounts, and condenser fan mounts etc
- 4.7.14 Checking of panel insulation
- 4.7.15 Checking of temperature readings
- 4.7.16 Checking of microprocessor controllers for operation
- 4.7.17 Submission of Call sheets & reports

4.8 Comfort AC

Vendor should carry out comprehensive AMC & preventive maintenance of following systems on quarterly basis:

Comfort AC 8.3TR	Blue Star	1
Comfort AC 3TR	Blue Star	4
Comfort AC 2 TR	Blue Star	4
Comfort AC 1.5TR	Blue Star	2

Vendor should ensure Optimum usage of Comfort ACs in Corporate Data Centre.

The preventive maintenance of Comfort ACs includes following:

- Cleaning up of unit & Air filter.
- Cleaning of cooling coil & condenser coil.
- Checking of driver belt & replace if necessary.
- Lubrication of bearings if necessary.
- Checking up of operating of unit, controller & condenser.
- Combing of fins of condenser & evaporate coil if necessary.
- Measurement of current of all individual equipments.
- Checking of all overload relay settings.
- Checking of all electrical components for loose connections & tighten if necessary.
- Checking of refrigeration piping of gas leakage.
- Checking of pulleys, motor mounts, and condenser fan mounts etc.
- Checking of panel insulation.
- Replacement / Repair of auto switch over device for 2 nos. of Voltas Split ACs in case of any fault/ failure.

- Submission of Call sheets & reports.
- In case of any help required in Dismantling the existing ACs for disposal, Vendor should render such help to Corporate Data Centre.

4.9 Distribution Boxes for Electrical Supply to Server Room and Data Centre

4.9.1 Total Distribution Boxes of 25 Nos. and 486 nos. MCBs (**Annexure IV** given below). During shutdown of LT Panels, maintenance of corresponding Distribution Boxes and MCBs should be carried out as per Standard Operating Procedure of LT Panels.

4.9.2 LT Cables → Regular checking of all LT cables as instructed by CDC In-charge.

4.9.3 Industrial Power Switches and Sockets - Regular checking of all these switches and sockets as instructed by CDC In-charge.

4.10 Fire & Safety Systems

4.10.1 Very Early Smoke Detection Aspirators (VESDA). In addition to the scope of work for Comprehensive AMC and maintenance of VESDA system, vendor/party will have to replace **3 nos. of VESDA Filters** within first quarter of AMC.

4.10.2 Fire suppression systems FM 200 with fire panels (GAS NAF S125) cylinders (Make Europlex Technologies). Daily Monitoring of the level of GAS has to be done and recorded. Refilling of NAF S 125 gas is excluded)

UPS Room			
Sl. No	Total Wt.	Charge Kg.	Cylinder Wt.
1	170.90	90.50	78.04
2	170.90	90.50	78.04
Cylinder Room			
1	161	80	79.38
2	156.20	80	73.96
3	159.74	80	77.48
4	155.72	80	73.54
5	156.32	77	76
6	154.50	79	73

4.10.3 Fire Detectors & alarm systems – analog/digital includes 140 nos. of smoke detectors.

4.10.4 RAT Repellant – 20 Controller units with 240 no. transducer (Make Maser Electronics (P) Ltd.), regular monitoring of these devices and ensure working.

4.10.5 Water Leakage Detection (WLD) system in Server Room & UPS Room → regular monitoring of this system should be done. WLD testing to be carried out during Preventive Maintenance on quarterly basis.

4.10.6 Fire Extinguishers –

Type of Fire Extinguishers	Qty	Capacity
ABC	7	5 Kg
ABC	5	2 Kg
CO2	5	4.5 Kg
DCP	1	75 Kg
DCP	2	10 Kg
NAF	10	5 Kg
Heavy Duty Smoke and Powder Exhaust Fan	4	

- Necessary training to be provided to our Staff on quarterly basis on the operations of different types of Fire extinguishers.
- MOCK Fire Drill has to be organized by the vendor and conducted once in a year in coordination with our Officers in Benzene Installation, Sewree Mumbai.
- All Fire Extinguishers should be refilled once in a year.
- Replacement of wind Socks are to be provided by the vendor as and when Wind socks get torn off. (Currently Wind socks are of 24” Diameter x 4 feet length with Red and White Band)
- Testing of the Smoke and Powder Exhaust Fans to be done on quarterly basis.

4.11 Security Systems

Vendor should carry out Comprehensive AMC & preventive maintenance of following Security systems on quarterly basis.

4.11.1 CCTV Surveillance system

- 34 nos. CCTV Cameras.
- 3 x 16 port DVR with 4 TB Hard Disks in each DVR.
- Vendor should ensure regular backup of CCTV Recordings as per SOP.
- Vendor should provide necessary support in changing CCTV cable connections if required by Corporate Data Centre.

4.12 BMS Operations

4.12.1 Interflex Access Control Software → Comprehensive AMC of Interflex software, Reloading the software, backup of Data, Restoration of Data, all type of door controllers, other controllers & Access Card sensors.

4.12.2 BMS Trane Software - Comprehensive AMC of Trane software + Its Desktop PC and customization of BMS Dashboard as per the need of Corporate Data Centre (Twice a year Customization calls)

4.12.3 Public Address (PA) System

Public Address System (1no. 250Watts Ahuja Amplifier, 18 nos. 10Watts Ahuja Ceiling mounted Speakers, 2 nos. HORN Speakers, 1 no. Shure make Mic, Portable Amplifier Speaker system).

4.12.4 Earth pit maintenance –20 nos.

- Vendor should ensure Earth Resistance is less than 2 Ohms.
- Vendor should ensure regular watering of all Earth Pits.
- In case of revamp of Earth pits, new Earth pits would have a warranty for specific period. Maintenance of Existing Earth pits would continue.

Revamp of CCTV Camera System, BMS Software and Earth Pits are planned during 2017-2018. Hence, AMC Payment of these equipment will be made for the proportionate period accordingly.

4.13 BMS Manpower

- Total 5 Nos. of Manpower for BMS support out of which:
- BMS Operator: 4 persons working in 3 shifts out of which 2 persons will be there in night shift (3rd shift). Qualification – minimum Diploma ITI in Engineering **with 2 years'** experience in BMS Operations.
- BMS Supervisor: 1 Person, should be minimum Diploma ITI Holder and Certified Electrician with **2 years'** experience in LT Panels. This person shall compulsorily be in General Shift duty, Monday to Saturday, with primary role of monitoring Building Management System (BMS) and other Data Center infrastructure.
- Scope of work for this Electrician cum BMS Operator is given in **Annexure V**.
- **24x7 (365 days)**

5.0 General Terms and Conditions

- 5.1 Vendor to arrange basic training on all devices and utilities which are part of Data Center like electrical equipments DG, PAC, UPS, Inverter, Fire Detection system, Fire Suppression system, BMS, Access Control etc. All BMS staff need to get the certificate of training on above devices/utilities from vendor/ party within 60 days from joining date.
- 5.2 Vendor/party has to provide suitable replacement in place, in case of any planned leave of BMS personnel.
- 5.3 Notice period for BMS Operators leaving the job is minimum one month.
- 5.4 Overlapping period of Handing over/ taking over by BMS Operators is 15 days.
- 5.5 In case of absenteeism of any staff deployed at site and no suitable replacement of equivalent qualification and experience is provided, Non-adherence to punctuality in office timing, change of staff without BPCL's consent for the purpose of this contract, then penalty of thrice the cost incurred per person per day will be deducted from the payment to the successful vendor on pro-rata basis.

- 5.6 Notwithstanding anything contrary contained herein, the total penalties under the contract shall not exceed 10% of the Total PO Value.
- 5.7 BMS staff need to proactively monitor and maintain health status/reports of all utilities and devices of data center.
- 5.8 BMS staff should record and maintain all basic checklists as guided by BPCL staff.
- 5.9 BMS person should immediately log a call for any fault/ failure with vendor/party and follow up till the call resolution.
- 5.10 Vendor needs to do the payment to BMS Operators in case of any extra office hours claim made by BMS staff.
- 5.11 Vendor shall provide 2 sets of Uniforms and provide necessary tools and People Protection Equipment (PPE) like safety gloves, Safety shoes etc.
- 5.12 All the staff posted at site should be covered with Medical insurance under ESI & PF. Necessary registration document should be provided to BPCL at the time of staff deployment at site.
- 5.13 All kind of necessary background (like police, qualification, experience) verification of staff while joining should be arranged by support provider and submitted to BPCL on your letter head.

6. Other Terms & Conditions

- 6.1 Comprehensive AMC includes AMC for all hardware, software, components, services & systems /sub-systems support provided by Vendor against any defect. All parts required for maintenance of equipments and/or correction of faults will be supplied by Vendor without any cost to BPCL.
- 6.2 Vendor should carry out preventive maintenance of all systems on quarterly basis.
- 6.3 Vendor should maintain an inventory of spare parts at site for critical systems to avoid any delay in maintenance of equipments.
- 6.4 Vendor should provide maintenance support directly or thru authorized service center or OEMs & their authorized franchisees alone.
- 6.5 Maintenance services shall be available to BPCL on 24 x 7 for all 365 days. Vendor has to share escalation matrix for all Vendors.
- 6.6 **Call Response:** Vendor should ensure to provide high level of quality service promptly, since this Data Center is very critical. Any call reported by BPCL to Vendor should be responded **within 2 hours** and resolved **within 6 hours**.
- 6.7 Any delay in response and resolution shall attract penalty of Rs.500/- per day, per call (service) failure will be deducted from vendor's current/ running bill, if any.
- 6.8 Vendor should send trained & experienced engineers with necessary authorization letter or ID card for troubleshooting & rectification of problems.

- 6.9 Engineers should always give a duly signed call report on company letter head or company standard call-sheet format for all work/modifications carried out at site.
- 6.10 Vendor should supply new patches release for any software or product and will bring to BPCL notice immediately, if any.
- 6.11 In case of absence of any person deployed for the purpose of this contract, suitable replacement should be provided on immediate basis. BPCL team's decision on selection of staff depending on competency / experience will be final.
- 6.12 Non-attendance or non-rectifications of the faults coming under the scope of work and terms & conditions of the contract will entitle BPCL to get the job done from any other vendor at the risk and cost of the vendor. The final decision in this regard would be taken by BPCL.
- 6.13 Vendor shall make available at site any safety equipment required to work with electricity, fires, refrigerant, gases under pressure, places at any height, depth, and in ducts and electrical safety equipments and safety belts, helmets, shoes, rain/water protection equipments etc. which may be required for the purpose of any job at no additional charge.
- 6.14 Vendor should provide at least two sets of uniform (pant, shirt and shoes) to each of the persons deployed by him for one year of the contract period. M/s BPCL will not be responsible for maintenance of the uniforms. The persons deployed are required to be in uniform while they are on duty.
- 6.15 BPCL shall provide seating arrangement for the use by persons deployed under this contract, at any place inside the building as deemed suitable by M/s BPCL. The same may be changed by M/s BPCL as per their convenience.
- 6.16 Vendor should accept full and exclusive responsibility for Wages, PF, Bonus, Medical, Leave, etc. and any other obligations referred to under the law now and hereafter imposed by State Govt./Local Bodies for the person(s) deployed by the tendered. The successful tenderer should accept full and exclusive responsibility of insurance of the persons deployed by him.
- 6.17 The Vendors' liability shall be restricted only to the total contract value. This limit shall not apply to damages for bodily injury (including death), and damage to real property and tangible personal property for which vendor is legally liable. Vendor shall in no event be liable for indirect, consequential, incidental and special damages, third party claims and loss of/damage to data.
- 6.18 Vendor should make regular and full payment of wages, salaries, PF and any other payments due to his employee(s) and furnish necessary proof.
- 6.19 If applicable vendor should obtain the necessary Labour License from the licensing Authority under the Contract Labour (R&A) Act and Contract Rules framed there under and produce the same to the authorised representative of Bharat Petroleum Corporation Ltd., whenever asked to do so.
- 6.20 Vendor should comply with all Statutory laws and acts, Factory Act, Laws under CL(R&A) Act 1970 and EPF & ESI ACT, Payment of wages act, Minimum wages act or other Statutory Rules, regulations with their latest amendments, by-laws applicable or which might become applicable at Mumbai with regard to the

performance of the work included herein or touching this Contracts, from time to time and take such necessary steps as may be deemed necessary in this regard. The successful Vendor shall keep Bharat Petroleum Corporation Ltd. indemnified against all penalties, claims and liabilities of every kind for any violation of such Acts, Laws or Regulations etc. by him/her, his/her agent or his/her staff.

- 6.21 If at any point of time, during the period of the Contract, it is observed by either Vendor or BPCL, that any terms of the Contract are violated by the either party, the non-defaulting party reserves the right to terminate the Contract with one month notice. However, the right of termination shall be exercised by the non-defaulting party, within a period of 30 days from the notice thereof.
- 6.22 It should be the responsibility of the vendor to ensure that no unlawful act is done by their Staff while on duty.
- 6.23 In case of loss of the Corporation's property due to negligence or carelessness of the person(s) deployed by the vendor, he will be responsible and shall make good the same.
- 6.24 Vendor should be solely responsible for setting/resolving any dispute/claim of his/her personnel during the period of the Contract. No liability shall accrue to Bharat Petroleum Corporation Ltd. under any circumstances even after expiry of the contract.
- 6.25 During the tenure of the contract the contracting agency has to co-ordinate the work with other agencies working inside or outside the BPCL office building. Also in case of emergency or major problems the contractor has to provide complete support and assistance to any other agency or for jobs of Electrical maintenance, HVAC (Heat ventilation and air conditioning) system, DG set and BEST Electrical Sub-station, interior contracts etc.
- 6.26 Damages to any Equipment due to unforeseen circumstance like Flood, Fire, and Earthquake are not covered under this AMC.

7 Executive summary and write-up on the proposal

Executive summary & write-up on the Proposed AMC for Acceptance of all should be provided. Vendor need to provide a high-level synopsis in responses to the RFQ. The executive summary should be a brief overview of the engagement and should identify the main features and benefits of the proposed AMC.

8. Deviations from Objectives

The Vendor must specify the deviations / assumptions, if any, from the expectations conceived in this Tender clearly. In case nothing is specified under this heading, it will be assumed that there are no deviations from the BPCL's proposals.

9. Service Level Agreement

- 4.1.8.1 The Service Level Agreement (SLA) must be supported by an excellent operational planning, support, procedures. Proposal of SLA should clearly have acceptance of all Terms & Conditions. SLA should be signed between the Vendor and BPCL at the time of Purchase Order (P.O.) after mutual discussion. Vendor will prepare the SLA copy and will get it mutually signed on stamp paper of Rs. 100/- as per standard practice.

ANNEXURE II

S	Description of Cables used in CDC	Cable Used	Length	Material	Type
1	BEST Bus Bar room to Additional Bus Bar Panel in DG Room	3 Runs x 3.5C x 300 sq.mm		Aluminium	Armoured
2	Additional Bus Bar Panel in DG Room to Incomer EB1 in BEST Panel in DG Room	3 Runs x 3.5C x 300 sq.mm	18M	Aluminium	Armoured
3	Additional Bus Bar Panel in DG Room to Incomer EB2 in BEST Panel in DG Room	3 Runs x 3.5C x 300 sq.mm	105M	Aluminium	Armoured
4	BEST Panel in DG Room to LT Panel 1 in CDC	2 Runs x 3.5C x 400 sq.mm		Aluminium	Armoured
5	BEST Panel in DG Room to LT Panel 2 in CDC	2 Runs x 3.5C x 400 sq.mm		Aluminium	Armoured
6	LT Panel 1 to ASCO switch	4 Runs x 1 Core x 150 sq mm	7 M	Copper	
7	LT Panel 2 to ASCO switch	4 Runs x 1 Core x 150 sq mm	5M	Copper	
8	LT Panel 2 to UPS 1B	4 Runs x 1 Core x 150 sq mm		Copper	
9	ASCO switch to UPS 2	4 Runs x 1 Core x 150 sq mm	100M	Copper	
10	LT Panel 1 to UPS 1A	4 Runs x 1 Core x 150 sq mm		Copper	
11	LT Panel 2 to PAC DB1 in server Room	3.5 Core x 150 sq mm	25M	Aluminium	Armoured
12	LT Panel 2 to PAC DB2 in server Room	3.5 Core x 150 sq mm	25M	Aluminium	Armoured
13	LT Panel 2 to PAC DB3 in UPS Room	3.5 Core x 70 sq mm	25M	Aluminium	Armoured
14	PAC DBs to Auto Changeover Switches for 20TR PACs Server room (6 nos.)	3.5C x 25 Sq.mm	144M	Copper	Armoured
15	PAC DB3 in UPS Room to Auto Changeover Switches for 12.5TR PACs (2 nos.)	3.5C x 16 Sq.mm	50M	Copper	Armoured
16	BEST Panel to APFC Panel in DG Room	3.5 Core x 240 sq mm	15M	Aluminium	Armoured
17	LT2 Panel to 10KVA UPS 2 (Ref PO 4505438061 on SBTele)	4C x 6 Sq.mm	16M	Copper	Armoured

Maintenance of Kirloskar DG sets

**Routine Maintenance Chart for
K - Series 6K12TA, 612TA Sr. I, 8K15TA, 10K18TA & 12K22TA**

○ : Check & adjust

● : Replace

Inspection		Daily	first 50hrs	Every 250hrs	Every 500hrs	Every 750 hrs	Every 1000 hrs	Remarks
Cooling system	Check for leakage (hoses, clamp)	○						
	Check the water level	○						
	Change the coolant						●	Replace the radiator coolant at every 5000 hrs.
	Check & Adjust the V-belt tension						○	Replace at 3000 hours
	Check Radiator Cooling fins			○				
	Check the radiator						○	
Lubrication system	Check for leakage	○						
	Check the oil level gauge	○						
	Change the lubricating oil		●	●				
	Replace the oil filter cartridge		●	●				
Intake & Exhaust System	Air cleaner OUTER element				●			Check for red band indication & replace.
	Air cleaner INNER element						●	Do not clean only replace after two replacements of Outer Element
	Check the leakage for intercooler (hoses, clamp)	○						
	Check air cleaner choke indicator	○						
	Clean the inter-cooler air fins			○				
	Clean the turbo-charger	○						
Fuel system	Check the leakage fuel line			○				
	Clean the fuel strainer of fuel feed pump		○				○	
	Remove sediment from fuel tank		○	○				When necessary
	Drain the water in separator		●	●				
	Replace the fuel filter element		●	●				
	Replace coarse fuel filter						●	
	Check fuel injection timing						○	When necessary
	Calibrate injection nozzles & FIP							5000 Hrs
Engine operation	Check the state of exhaust gas	○						
	Check the battery charging							
	Check the compression pressure		○					5000 Hrs
	Adjust Intake / Exhaust valve clearance			○				2500 Hours
Coolant	PH and Nitrite Content of coolant.							7 - 9
Electrical systems	Electrical Systems			○				
	Check sp. Gr. & electrolyte level in batteries			●				
	Check battery terminals			○				
	All electrical connections						○	
Other	All external fasteners			○				
	Radial & axial clearances of turbocharger							Every 3000 hours
	(Check & record)							

Annexure IV

List of Distribution Boxes and MCBs

DB Box Location	Total No. of DB	DB Name	No. of MCB	Single Pole (SP)	Triple Pole (TP)	Four Pole (FP)	Rating Of MCBs
First Floor	13	Server DB 1A	32	30	2		30*32A SP, 2*63 A TP
First Floor		Server DB 1B	32	30	2		30*32A SP, 2*63 A TP
First Floor		Server DB 1C	34	33	1		33*32A SP, 1*63 A TP
First Floor		Server DB 2A	32	30	2		30*32A SP, 2*63 A TP
First Floor		Server DB 2B	32	30	2		30*32A SP, 2*63 A TP
First Floor		Server DB 2C	32	30	2		30*32A SP, 2*63 A TP
First Floor		Server DB 1D	24	18	6		2*63A TP,4*32A TP,8*20A SP,10*32A SP
First Floor		Server DB 2D	24	18	6		2*63A TP,4*32A TP,8*20A SP,10*32A SP
First Floor		PAC DB-2	4	0	4		4*63A TP
First Floor		PAC DB-3	4	0	4		4*63A TP
First Floor		CAC DB- 3	8	0	8		8*32 A TP
First Floor		Lighting DB-1C	24	24	0		8*10A SP,8*16A SP,8*20A SP
First Floor		Power DB-3B	24	24	0		8*20A SP, 8*16A SP,8*10A SP
Gr. ATS Room	3	PAC DB -1	4	0	4		2*63A TP, 2*32 A TP
Gr. ATS Room		Lighting DB-1B	24	24	0		8*20A SP, 8*16A SP,8*10A SP
Gr. ATS Room		CAC DB- 2	8	6	2		2*32A TP, 6*32A SP
Gr. UPS Room	1	UPS DB -3	16	12	4		4*40A TP,1*32A SP, 2*20A SP,4*16A SP,2*10A SP,3*6A SP
Store Room First Floor	1	CAC DB-1	18	15	3		2*63A TP,1*32A TP,5*20A SP,5*16A SP,5*10A SP
Gr. Test Lab	1		10				1*20A SP,9*16A SP
Store Room Gr. Floor	5	Lighting DB	13	12		1	1*63A FP,9*16A SP,3*10A,
Store Room Gr. Floor		Raw Power	13	12		1	1*63A FP,12*16A SP
Store Room Gr. Floor		AC DB	12	6	6		1*63A TP,2*50A TP,2*32A TP,2*32A SP,5*16A SP
Store Room Gr. Floor		Lighting DB 1A	24	24	0		8*20A SP, 8*16A SP,8*10A SP
Store Room Gr. Floor		PDB 3A	24	24	0		8*20A SP, 8*16A SP,8*10A SP
Fire Cylinder Room	1	PDB 3C	24	24	0		8*20A SP, 8*16A SP,8*10A SP
	25		496				

Annexure V

The scope of work for Electrician cum General Shift-In charge (BMS Supervisor) to be placed at CDC is given below.

Availability → 6 days a week 9.00AM to 6.00 PM (Single shift).

In case of any urgency during night or Sundays, he shall be called for assistance.

Scope of Work for Electrician in Corporate Data Centre Sewree.

1. BEST Power Supply Bus Bar Room on daily basis.
 - Check Input 3 Phase Voltages.
 - Check output 3 Phase Voltages.
 - Check Neutral to Earth Voltage.
 - Record these Readings.
 - In case of any discrepancy, take it up with BEST and get the same rectified.
 - Check all Lights inside this room.

2. Check BEST Power Supply on the BEST Power Panel inside DG Room on daily basis.
 - Verify Input 3 Phase Voltages
 - Check Output 3 Phase Voltages in the panel.
 - Check Power Factor Panel Meter for appropriate Power Factor and take corrective action.
 - Check Power Factor Panel LED Lights.

3. Earth Pit – Quarterly.
 - Cleaning of all Earth Pits.
 - Adding Chemical in all Earth Pits (periodically).
 - Watering all the Earth Pits.
 - **Check the Neutral Earth voltage inside CDC at different points every 15 days especially in BEST Panel, LT Panels, Precision ACs, Server Racks, in CDC Workstation Area.**
 - Check the resistance of all Earth Pits.
 - Should have Earth Resistance Meter with him.

4. Server Room
 - Should have good quality Megger meter with him.
 - Check Supply Voltage on all Server Racks on weekly basis.
 - Check Neutral to Earth Voltage on all Server Racks on weekly basis.
 - Ensure corrective action to reduce Neutral to Earth Voltage.

5. Check all Lights and Other Electrical Equipment (MCB, Switches) on daily basis and ensure replacement of defective lights through CDC Staff.

- DG Room.
- ATS Panel Room
- Server Room
- UPS Room
- Telecom Room
- Pantry Room
- Wash Room

Other Jobs to be carried out Electrician.

- Fixing of Power Points / Industrial Sockets/ MCBs.
- Testing of Electrical faults.
- Laying of cables including Earthing cables, connections, if any.
- Working with 3rd party Engineers for electrical purpose.
- Overall Health checkup of Electrical setup
- PM follow up for DG/UPS/ ACs, presence of engineer at time of PM, Electrical maintenance.
- Testing of new equipments

Preparation of reports for all the above activities.

-: End of Document :-