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Kindly Ignore –Corrigendum 1

For Technical Clarification Contact the following person.

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BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPALLI-620 014

Ref: BHEL/NGA/DCFC/ 001



**Document for procurement of one 50 - 60 kW and one 120 - 150 kW DC Fast
charger for charging the Li-Ion Battery of Electric Bus**

Prepared by

Checked by

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1.0 Brief scope of the Work

Supply of one **50 – 60 kW** and one **120 - 150 kW** of CCS-combo 2 and GB/T multi-standard, floor mounted EV Off-Board DC Fast chargers for Electric buses, packing and forwarding, transportation, installation and commissioning and successful testing with training of charging station as per BHEL's specification (**Refer annexure 1**). The charger must meet all safety requirements as per the applicable National/International standards.

The scope of the work includes:

1. Supply of one 50-60 kW DC fast charger of CCS-combo 2 and GB/T multi-standard
2. Installation and commissioning of the charger -50-60 kW DC fast charger
3. Supply of one 120-150 kW DC fast charger of CCS-combo 2 and GB/T multi-standard
4. Installation and commissioning of the charger -120-150 kW DC fast charger
(Note: Necessary civil works for installation will be carried out by BHEL and supervision needs to be provided by the bidder)
5. **Supply of input cable from Distribution box to Charger (rate per metre length shall quote seperately)**

The charging infrastructure must comply with all norms, standards and regulations applicable and must be described by the supplier in detail.

Note: Price shall be quoted separately for each of the above activities

2.0 Pre-Qualification Requirements

Sl.No	Pre-Qualification Requirements	Bidder Confirmation to the points above	Documents to be attached	Bidder Remarks
1. (A)	<u>Indian OEM</u> The bidder shall be India based Original Equipment Manufacturer (OEM) of DC Charger Equipment.	Yes/No	Certificate of incorporation along with Article of association and memorandum of association.	

			with organisation chart	
4.	Bidder should have ISO:9001 certificate or equivalent.	Yes/No	ISO 9001 certificate or higher	
5.	Bidder should have at least 2 years' experience in the business of manufacturing, sales and service of electrical/power electronics equipment including battery chargers, storage and AC to DC & DC to DC Converters.	Yes/No	Should furnish suitable supporting documents	
6.	The bidder should have obtained necessary certification for the Charger from ARAI or equivalent approving authority either in India or outside.	Yes/No	Certificate	

Note: a. The Pre-Qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met.

b. Bidder must furnish all necessary supporting documents, as required, along with the bid to satisfy Pre-Qualification criteria as specified above.

3.0 Quality Control and Inspection

a) The bidder shall be wholly responsible for the quality and performance of the supplied charging equipment as per the tendered technical specifications.

b) BHEL reserves the right to visit the manufacturing site or the supply chain for quality inspection at any time. BHEL at its discretion may order the testing of random samples either at the implementation partner's premises (if an ARAI-accredited Testing Laboratory is available) or at any other third-party ARAI-accredited laboratory.

c) All tests shall be carried out as per AIS 138, and the bidder shall submit the relevant test reports.

d) After testing, if the charging equipment are found not matching the specifications at given test parameters, BHEL at its discretion may order for cancellation of complete order or cancellation of the complete lot of product. The complete loss shall be to the account of the bidder.

- c) Quality plan
- d) Performance test report

7.0 Documentation along with supply of charging equipment

The bidder shall provide the following documents (both hard copy and soft copy) to BHEL for reference:

Manual / Guide: User Manuals, FAQ, OEM Functional Manuals and Installation Guides and Troubleshooting Guides.

Certificates: Equipment Warranty, Insurance, tests, certificates if any.

8.0 Installation and Commissioning

All electric equipment and components including the related supplies i.e., cables, glands, fasteners, (including but not limited to) etc. required for Installation and commissioning shall be under bidder's scope. **BHEL will provide the three phase main supply line with distribution box. Input cable from Distribution box to charger and also provide necessary connectors is under bidder scope. Price per metre length of input cable shall be quoted separately. Length of input cable required shall be decided with successful bidder by BHEL.** Commissioning of Charger System at BHEL Trichy place shall be in the scope of Bidder. The civil works shall be in the scope of BHEL with the supervision of bidder.

Final product acceptance shall be based on successful completion of erection and commissioning. Any replacement of failed/damaged items during commissioning shall be exclusively at Bidder's cost. Bidder is advised to stock necessary spares and ensure easy availability to facilitate trouble free commissioning. The Bidder is expected to work with project managers from communication/system integrator/ utilities for resolving the following risks (non-exhaustive indicative list): poor equipment performance, project scope creep, unavailability of internal and external sources, Rectification of equipment faults.

9.0 Delivery Schedule

Sl. No	Milestone	Duration
1.	Supply of one DC Fast charger of 50-60 kW and one DC Fast Charger of 120-150 kW- receipt at BHEL stores	45 days from the date of PO
2.	Installation and Commissioning	20 days from the date of clearance by BHEL against milestone 1

16	Operating temperature	0 °C to 55 °C		0 °C to 55 °C	
17	Working humidity	≤ 95% RH		≤ 95% RH	
18	Ventilation/Cooling system	Forced Air cooling		Forced Air cooling	
19	Display	Minimum 7 inch Touch screen or keypad (backlighted).		Minimum 7 inch Touch screen or keypad (backlighted).	
20	Display Messages	• Vehicle plugged in / Vehicle plugged out • Total time required for charging • Duration since start of charge, • kWh consumed. • User authorization status • Idle / Charging in progress: SOC • Fault conditions • Metering Information: Consumption Units		• Vehicle plugged in / Vehicle plugged out • Total time required for charging • Duration since start of charge, kWh consumed. • User authorization status • Idle / Charging in progress: SOC • Fault conditions • Metering Information: Consumption Units	
21	Support Language	English		English	
22	User access authorization	RFID system or other equivalent or better system		RFID system or other equivalent or better system	

30	Billing and payment requirement	a) Billing: Based on grid responsive metering b) Payment: BHIM / Bharat QR or UPI compliant mobile payment c) Metering: As per Indian metering standard		Billing: Based on grid responsive metering b) Payment: BHIM / Bharat QR or UPI compliant mobile payment c) Metering: As per Indian metering standard	
31	Warranty	1 year		1 Year	
32	Input cable	Input cable from Distribution box to charger (price per metre length shall be quoted separately)		Input cable from Distribution box to charger (price per metre length shall be quoted separately)	

Abbreviations

ABS	Acrylonitrile Butadiene Styrene
AC	Alternating Current
AIS	Automotive Industry Standards
ARAI	Automotive Research Association of India
AMC	Annual Maintenance Contract
BHEL	Bharat Heavy Electricals Limited
BMS	Battery Management System
CCC	Constant Current Charging
CCS	Combined Charging System
CVC	Constant Voltage Charging
CIRT	Central Institute of Road Transport
CMVR	Central Motor Vehicle Rules
DC	Direct Current
EMC	Electro Magnetic Compatibility
EV	Electric Vehicle
FAQ	Frequently Asked Questions
IEC	International Electrotechnical Commission
IP	Ingress Protection
ISO	International Organization for Standardization