



BHARAT HEAVY ELECTRICALS LIMITED
TRANSMISSION BUSINESS ENGINEERING MANAGEMENT

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TYPE OF DOC.	TECHNICAL SPECIFICATION				SIGN				
TITLE <i>Diesel operated (with battery start up) Self-propelled articulated boom type man lift (minimum extended boom length shall be 30 meters)</i>					NAME		MSP	SKS	AG
					DATE		02.01.19	02.01.19	02.01.19
					GROUP		HVDC	W.O.No	
CUSTOMER	Power Grid Corporation of India Ltd								
PROJECT	±800KV, 6000MW, HVDC RAIGARH – PUGALUR TERMINALS								
CA NO.	CC-CS/651-SR2/HVDC-3063/7/G10/NOA-II/5818 dtd 08.06.2016 for Supplies & CC-CS/651-SR2/HVDC-3063/7/G10/NOA-IV/5820 dtd 08.06.2016 for Services								
STATION	RAIGARH and PUGALUR								
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SECTION 1

INTENT, SYSTEM REQUIREMENT, DESIGN CRITERIA AND SCOPE

1.0 INTENT OF SPECIFICATION

- 1.0.0 This specification is intended to cover following activities and services in respect of all the equipment of the 2 No. Diesel operated (with battery start up) Self-propelled articulated boom type man lift (*minimum extended boom length shall be 30 meters*) along with necessary accessories at Raigarh & Pugalur Stations of RP-800 Project.
- i) Complete manufacturing including shop testing at OEM works
 - ii) Providing and O & M manuals as per specified format etc. for owners/purchaser's review, approval and records.
 - iii) Packing and transportation from the manufacturer's works to the site including customs clearance/port clearance, if required.
 - iv) Supervision of safe Unloading & storage at site.
 - v) Fabrication, pre-assembly, if any, erection testing and putting into satisfactory operation all the equipment including successful completion of trial operation.
 - vi) Performance and Guarantee tests after successful completion of trial operation at site.
- 1.0.1 The requirements specified under SECTION 2 & SECTION 3 of the specification shall be considered as part of this section.
- 1.0.2 It is not the intent to specify herein all the details of design and manufacture. However, the equipment and the system shall conform in all respects to high standards of design, engineering and workmanship and shall be capable of performing the required duties in a manner acceptable to Purchaser/ Owner, who will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his judgment is not in full accordance herewith.
- 1.0.3 The contract shall be on lump-sum basis for the package. Within the scope of the contract, no variation shall be admissible to the contractor so far the input remains unchanged. In case of variations due to unforeseen changes in scope during contract stage, the additions/ deletions to the scope shall be settled on the basis of mutually agreed rates.
- 1.0.4 The Bidder shall deem to have understood completely all the tender drawings and documents and quoted accordingly.

- 1.0.5 **Deviation:** There shall preferably be no deviation on technical specification. The bidder shall sign and stamp the “Certificate for No Deviation” enclosed in tender towards confirmation. Except for these deviations/variations covered under Deviation Schedules which are accepted by the Purchaser before the award of the Contract, it will be the responsibility of the Bidder to fully meet the intent and the requirements of the specification within the quoted price. *Deviations in any other form including clarifications / assumptions / etc. will not be considered and it will be construed that the bid conforms strictly to the specification.*
- 1.0.6 The Bidder to note carefully that the parameters, estimated capacities of equipment indicated in the specification are only for the guidance of the Bidder. The system shall be designed as per relevant standards/ codes and exact capacities and quantities are to be estimated by the Bidder. All such estimations and design calculations shall be submitted for Purchaser's approval.
- 1.0.7 It is the responsibility of the successful Bidder to obtain necessary approval/ clearance from statutory organizations wherever applicable for the equipment/ systems under the scope specified.
- 1.0.8 The term ‘Owner’ appearing in this specification shall refer to **Power Grid Corporation of India Limited (POWERGRID)**, the term ‘Purchaser’ shall refer to **BHEL** and the term ‘Contractor’ shall refer to the successful **Bidder**.
- 1.0.9 **Scope of Supply and Services:**

*The Scope of supply includes design, engineering, manufacturing testing, inspection, packing, forwarding, transportation, unloading & storage at site, assembly of parts at site (if required), other services required for successful commissioning, demonstration and training (at site) of the **2 No. Diesel operated (with battery start up) Self-propelled articulated boom type man lift (minimum extended boom length shall be 30 meters) along with necessary accessories in full compliance to this technical specification.***

All equipment provided by the manufacturer shall be new, free from defects and of same type standard and quality set forth in the specifications. The scope of equipment to be furnished and services to be provided under the contract are outlined hereinafter and the same is to be read in conjunction with the provisions contained in other sections/ clauses. The scope of work under the contract shall be deemed to include all such items, which although are not

specifically mentioned in the bid documents and / or in Bidder's proposal, but are required to make the equipment/ system complete for its safe, efficient, reliable and trouble free operation. NO EXTRA COST implication to BHEL shall be considered during contract stage on account of supply & installation of these unaccounted items.

- i. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Special Conditions of Contract, Technical Specifications
- ii. Miscellaneous items like hardware, fixtures etc. shall be deemed to be included under the relevant BOQ items and bidders shall consider the same while quoting for BOQ items.
- iii. **Maintenance Tools and Tackles**
A complete unused new set of special purpose tools, tackles and accessories along with detailed instructions and maintenance manual shall be supplied. Each tool and wrench shall be stamped so as to be identified easy for its use. The tools shall be supplied in required toolbox and with a copy of instruction manual. The items supplied shall be of the best quality and specially protected against rusting in tropical climate.

1.0.10 Bill of Quantity:

Sl. No.	Item Description	Unit	Quantity for Raigarh	Quantity for Pugalur
1.0	Diesel operated (with battery start up) Self-propelled articulated boom type man lift (<i>minimum extended boom length shall be 30 meters</i>) along with necessary accessories	Set	01	01
2.0	Erection/assembly, Commissioning, testing, demonstration at site of the above equipment	Set	01	01

Notes:

- A) Item supplied shall be new & should not have been used earlier.
- B) Supplier should specify the Make & Model & accessories/complete scope of supply offered along with Technical Bid.
- C) Supplier is required to provide all the Technical details/ Catalogue/Datasheet of the offered equipment along with technical bid.
- D) Make/Model offered is subject to Powergrid approval. Powergrid approval shall be

considered as final.

- E) Supplier is required to give an undertaking “to address issue of warranty / after sales services of the equipment from OEM”.
- F) Bidder shall submit the detailed list of mandatory spares recommended by OEM along with the bid for our information only.
- G) Following points should be taken care while quoting for the above mentioned items. Prices against the below points shall deemed to be included in the main equipment.
 - 1) *Bidder should comply all requirements given in this specification while quoting for above items.*
 - 2) *The contractor shall supply one complete set of tools, tackles and other minor items required for maintenance / upkeep and overhaul of the equipment.*
 - 3) *It will be the responsibility of the contractor to obtain statutory clearance & license for operation, if any, prior to supplies as required.*
 - 4) *Any spares required for commissioning purpose shall be supplied by the contractor & the price of the same shall be included in the main equipment price.*

1.0.11 General Technical Requirements:

- The equipment offered shall be from standard range of manufacturer and shall be of proven durability.
- All material/parts used shall be free from flaws and defects and shall confirm to the relevant international standards and good engineering practices.
- The design of the equipment shall be based on the technical specifications.
- The equipment shall comply with the internationally accepted standards or any other standards of the country of origin.
- The equipment shall meet the international safety standards.

1.0.12 Specific Technical Requirements:

Diesel operated (with battery start up) Self-propelled articulated boom type man lift along with necessary accessories with following features/ functions:

- The man lift shall be JLG/GENIE or equivalent make, suitable to access for maintaining the highest installed equipment in AC/DC yard.
- Minimum extended boom length shall be 30 meters.
- Equipment should be suitable for irregular and bumpy road/terrain.
- Provision of Emergency Lowering of Platform should be available.
- Equipment should have sufficient Fuel tank capacity for continuous operation of around 8 hours.
- Equipment shall meet the latest emission norms as per latest International/equivalent Indian standards.

- Equipment should be safe to use in winds as per site conditions as defined in Section-3.

Bidder need to furnish duly filled Technical particular sheet as per Annexure-A enclosed in this section-1 of the specification along with technical bid.

1.0.13 Quality & Inspection

Acceptance of Make for main items used in the equipments shall be subjected to POWERGRID QA&I approval. There shall not be any price implication on account of any change of make by POWERGRID during detailed engineering and considered by bidder during tender stage.

The inspection of Lifting equipment shall be done as per technical specification/ approved technical data sheet/GA and customer approved quality plan before dispatch clearance. Contractor shall ensure to produce all test certificates of equipment inline with technical requirement to satisfy customer.

1.0.14 Acceptance Tests:

Bidder to submit list of acceptance tests in line with relevant standard/OEM practice along with the technical bid submission.

Acceptance tests shall be carried out on equipment as per relevant applicable International standards/equivalent Indian standards for Man lift.

Purchaser reserves the right to inspect the material and witness the acceptance tests at manufacturer's works/ test laboratory. The supplier shall intimate the Purchaser regarding readiness of the Equipment for the test, at least 30 days in advance, so that Purchaser can depute representative to witness the same.

However, all load bearing components shall be load tested as per the relevant international standards and valid manufacturer's load test certificate shall be submitted along with the supply.

1.0.15 Maintenance Criteria:

The bidder shall also submit the schedule regarding the type of maintenance/ testing to be carried out periodically on the manlift to ensure their healthiness. A check list for condition monitoring of equipment shall also be furnished by the bidders.

Refer section-3 of this document for project details and general specification.

ANNEXURE-A

Bidder need to refer & furnish the following particulars as per table below at the time of submission of Technical offer:

SL No	Description	Value
1	Make/Model	
2	Boom type	
3	Platform Height (m)	
4	Working Height (m)	
5	Maximum horizontal outreach (m)	
6	Maximum lifting capacity (kg)- restricted/unrestricted	
7	Platform size (mm)	
8	Platform rotation	
9	Steering	
10	Ground clearance (cm)	
11	Swing	
12	Turning radius minimum	
13	Auxiliary Power Unit	
14	Boom control	
15	Steering type	
16	Drive type	
17	Travel speed range (km/hr)	
18	Tyres	
19	Dust proof protection (Y/N)	
20	Fuel tank capacity (litres)	
21	Max continuous operation (hours/minutes)	
22	Weight (kg)	
23	Gradeability	
24	Engine Power	
25	Engine make	
26	Certification	
27	Any other standard features	

SECTION – 2
GENERAL REQUIREMENT

The following requirements shall be met by the equipment supplied by the Contractor:

1. The equipment shall be designed and constructed for safe, proper and continuous operation under all conditions described or implied in the Specification, without undue strain, vibration, corrosion or other operating difficulties.
2. Parts shall be designed and supported to permit free expansion and contraction without causing leakage, distortion or excessive strain on the equipment.
3. Parts subject to wear, corrosion or other deterioration or requiring adjustment, inspection or repair shall be readily accessible and capable of easy removal for repair or replacement.



±800KV, 6000MW, HVDC RAIGARH – PUGALUR TERMINALS

Diesel operated (with battery start up)
Self-propelled articulated boom type man lift
Doc. No. : **TB-391-316-MLIFT** Rev. 00

SECTION – 3
PROJECT DETAILS & GENERAL TECHNICAL REQUIREMENTS

Please refer TB-391-316-00- Rev-03: 'General Technical Requirements- Section 3'