

ANNEXURE-3 (revised) - ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR 2X800 MW KODERMA CHP, BHP, LHP, GHP						Rev: 03 Dated: 26-03-2025
BROAD SCOPE: The scope for complete Coal, biomass, limestone & gypsum handling system shall include complete design, engineering, manufacture/supply, shop fabrication, assembly, testing & inspection at manufacturer's works, maintenance tools & tackles, spares for erection, start-up and commissioning as required, fill of lubricants & consumables, packing, despatch, transportation, delivery to site, unloading, handling & storage at site, construction of Stores at site (Open & Closed), round the clock security at open storage yard, closed storage shed & erected material till completion of work, construction, erection, its supervision, testing, inspection, commissioning and handing over to Owner and Guarantee testing, including all associated Mechanical, all auxiliary systems, Civil & Structural Steel Works, Architectural Works, Electrical, Control & Instrumentation Works as specified in tender specification, amendments & agreements till placement of order & as necessary for completeness in all respects and for efficient & trouble free operation for 2X800 MW KODERMA CHP, BHP, LHP, GHP						
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS
1	<p>Complete Electrical and C&I System for Coal & Biomass Handling Plant, Limestone & Gypsum Handling Plant.</p> <p>Note: Only 2 Nos. uncabled 11KV supply Feeder of Maximum 23.0MVA (terminal point located in Main Plant Power house) shall be provided by BHEL to bidder for CHP/BHP/LHP/GHP application at one location. Further, 11kV and other distribution will be in CHP EPC Bidder Scope</p>	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder	<p>Bidder shall provide 11kV uncabled feeder for BHEL PEM for FGD COMMON SERV TRF (11/0.433kV) and CSSP SERV TRF (11/0.433kV). Details are listed below in this document. The bidder should also provide cable trays for these cables within the bidder's MCC building and along the bidder's cable rack from the MCC building towards the equipment location mentioned below.</p> <p>Bidder shall provide min. 2 Nos. uncabled feeders each of 250A, 100A, 63A, 32A, 16A rating (1 No in I/C-1 and 1 No in I/C-2) in all 415V PMCC boards supplied by Bidder for BHEL use. These loads also shall be considered by bidder for transformer sizing.</p> <p>Bidder shall provide the Illumination, Earthing, Lightning protection for all areas where Civil & structural is in bidder scope. Illumination for Bunker floor and stockyard area also shall be in Bidders scope.</p> <p>The interconnection between Bidders earthing and Existing/Main earth grid is in Bidder scope.</p> <p>Wherever integration of bidder supplied items with BHEL supplied system is involved, necessary integration shall be done by the bidder.</p> <p>Obtaining Statutory clearance is in Bidders scope.</p> <p>Plot Plan: Quantity & location of MCC building marked in plot plan is tentative only. Bidder to decide the Quantity and locations of MCC buildings without disturbing other facilities of BHEL.</p> <p>Cable trestle/rack required as below in is bidders scope.</p> <p>1. For all bidders facilities .</p> <p>2. For BHEL free supply items located in BHEL buildings & bidder buildings</p> <p>Connection between oil retention pit(Bidders scope of Transformer) to common oil retention pit located in main plant area is in bidders scope.</p> <p>Security of all equipment's till handing over to end customer is in scope of bidder.</p> <p>Suppliers Finalization: Bidder to follow Customer referred sub vendor list of Elec/ C&I items which is part of NIT. In case of requirement of any new make, bidder shall submit Vendor list with credential. Approval of vendors is subject to Customer/BHEL approval.</p> <p>Bidder is fully responsible in preparation and getting certification for the Erection, Testing & Commissioning protocols from the end customer. The protocols shall be made for every equipment / system where E&C is in Bidder scope.</p> <p>Bidder shall maintain WORK PERMIT ISSUE / CANCELLATION Slips for all types of Electrical Isolation & Service resuming. Bidder shall maintain , Safety Log book for Clearance with signatures of all concerned engineers from Site operations, Mechanical, Electrical and C&I department of Bidder & BHEL for all types of drive /system Operations from DCS . Standard SAFE ELECTRICAL OPERATION procedures to be followed strictly by bidder.</p>
2	STACKER RECLAIMER (SCR) PACKAGE					
2.1	<p>Electrical, Instrumentation & controls on the Stacker machine including Fixed HT junction box and control JB suitably located at yard.</p> <p>Stock Yard Management, Hotspot Detection and Automatic Sprinkler Operation, Online Healthiness Monitoring of Bearings & Gearboxes of Stacker & Reclaimer Machine.</p>	BHEL SCR VENDOR	BHEL SCR VENDOR	BHEL SCR VENDOR	BHEL SCR VENDOR	<p>Provision of space and power (Raw/UPS) supply for equipment under SCR package in CHP MCC buildings shall be made by the Bidder. Detailed input will be shared to successful bidder during DE.</p>
2.2	Power distribution from Bidder's HT board for each SCR machine (1 no per SCR) up to the BHEL SCR Vendor's HT Junction Box/ LBS suitably located in the yard.	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder	Cable tray and earthing of entire stockyard (except on the machine) is in the scope of bidder.

2.3	HT /LT /Screen / control cable/cable trays/supports from HT junction box & control JB (suitably located in the yard) to bidder's DDCMIS/ HT board/Other Panels in CHP MCC building. Earthing along the rail with suitable earth pits required to meet the grid resistance including electrical and electronic earth pits for SCR machine. Cables/cablings for SCR items located in CHP MCC Building. OUTGOING CABLE FOR HARDWIRE SIGNAL EXCHANGE FROM CONTROL JB TO CHP MCC BUILDING.	CHP EPC Bidder		CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder	HT /LT /Screen / control cable/cable trays/supports on the SCR machine shall be in the scope of BHEL SCR vendor. Detailed input will be shared to successful bidder during DE.		
2.4	Interface related to Stock Yard Management, Hotspot Detection and Automatic Sprinkler Operation, Online Healthiness Monitoring of Bearings & Gearboxes of Stacker & Reclaimer Machine, CCTV with Bidder supplied system	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder				
3	Interface with upstream breaker at 11KV and 3.3KV System	BHEL-PEM	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder				
4	PA System	BHEL-EDN	BHEL	BHEL	BHEL				
5	Interface with BHEL Roof Top Solar System	BHEL-SBD/RUDRAPUR	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder		Bidder to accommodate 50 KWp in scope for CHP.		
6	Interface with BHEL-DCS VMS, UPS, 24V DC System	BHEL-EDN	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder		Supply of DCS, UPS, 24V DC system in bidders scope and bidder to procure the DCS and VMS from BHEL-EDN since OWNER's tender condition calls for the same make DCS, VMS etc as that of SG, BTG package. Refer Annexure- 3A MRHS System DCS is a part of SG Package keeping in view the grouping requirements to control the MRHS with SG DCS only.		
7	CCVM System	BHEL-EDN	BHEL	BHEL	BHEL				
8	Interface with BHEL-Fire Fighting and FDA System	BHEL-PE&SD	CHP EPC Bidder	CHP EPC Bidder	CHP EPC Bidder				
Name of BHEL UNIT for coordination with bidder of various system applicable to CHP/LHP/GHP/BMS									
SI No	System						BHEL-Unit		
1	Plot Plan with Switchgear location, cable routing, earthing, illumination etc for CHP/LHP/GHP/BMS						BHEL-ISG		
2	Electrical and C&I system other than below listed						BHEL-ISG		
3	Design and integration of 3.3KV and 11KV system along with upstream breaker interface						BHEL-PEM		
4	DCS, VMS, UPS, 24V DC System						BHEL-EDN		
5	CCVM System						BHEL-EDN		
6	PA System						BHEL-EDN		
7	Fire Fighting and FDA system						BHEL-PE&SD		
8	Roof Top Solar System						BHEL-SBD/Rudrapur		
Loads to be fed from 11kV CHP BOARD # 0BE (located at CHP ER-2 near CRUSHER HOUSE)									
Sl.No.	Equipment	EQUIPMENT LOCATION (TO)	Route Length in meter	Application	Rating	Supply	Working	Standby	Total
8	FGD COMMON SERV TRF (11/0.433kV)	GYPSUM DEWATERING BLDG	CABLES IN BHEL PEM SCOPE	GDW SYS	1600 KVA	11 kV	2	1	3
9	CSSP SERV TRF (11/0.433kV)	CSSP AREA	CABLES IN BHEL PEM SCOPE	CHP WTP & CSSP	1000 KVA	11 kV	1	1	2