

Corrigendum - 4 dated 29/12/2025 to CPC Tender No. BHEL/CPC/ RTP/EPC_AHP_CHP/26/051

Work Description - EPC PACKAGE FOR ASH HANDLING PLANT, COAL HANDLING PLANT and MILL REJECT HANDLING SYSTEM AT DVC RAGHUNATHPUR TPS PHASE-II (2X660MW) STEAM GENERATOR (SG) ISLAND PACKAGE.

A) The following clause of TCC is modified as mentioned below:

SL. NO.	Document/ Reference Clause	Existing Clause	Revised As
1	Technical Specifications of the Contract (TCC), Clause No 5.2	<p>1. Bidder shall furnish the Guaranteed Power Consumption in KW for the conveyor system path wise as per specification along with the offer and Complete Drive list as per Annexure-9. Bidder to note that BHEL has considered/declared the auxiliary power consumption of 416 KW which is including systems/paths listed below as described in end user's technical specification Sec-VI, Part-A, Sub sec-IV, Functional Guarantees & Liquidated Damages:</p> <p>(i) Flow Path-I: Coal Conveying Flow Path: Coal conveyor taking feed from incoming conveyor in transfer point before main plant area and feeding coal (blended with Biomass) into last bunker of the Unit through travelling tripper mounted on Bunker Conveyors including all intermediate Conveyors and equipment, as applicable.</p> <p>BHEL shall load the price per kW of guaranteed power consumption for any increase on BHEL system wise declared value indicated above, during price evaluation at the rate of US \$ 7154 (US Dollar Seven Thousand one hundred and fifty-four only) per 1 kW increase in Station Auxiliary Power Consumption.</p>	<p>1. Bidder shall furnish the Guaranteed Power Consumption in KW for the conveyor system path wise as per specification along with the offer and Complete Drive list as per Annexure-9. Bidder to note that BHEL has considered/declared the auxiliary power consumption of 416 KW which is including systems/paths listed below as described in end user's technical specification Sec-VI, Part-A, Sub sec-IV, Functional Guarantees & Liquidated Damages:</p> <p>(i) Flow Path-I: Coal Conveying Flow Path: Coal conveyor taking feed from incoming conveyor in transfer point before main plant area and feeding coal (blended with Biomass) into last bunker of the Unit through travelling tripper mounted on Bunker Conveyors including all intermediate Conveyors and equipment, as applicable.</p>

B) The following New Clauses/Additional Documents are added as mentioned below and attached along with this corrigendum:

SL. NO.	Document/ Reference Clause	Existing Clause	New Clause
1	New Clause added as Clause 12.6 in Chapter-12 Exclusions, of Technical Specifications of the Contract (TCC)	-	Clause No. 12.6 – "Fire Protection System of CHP and AHP Area- Complete Fire Detection and Protection System (FDPS System) for the CHP and AHP

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SL. NO.	Document/ Reference Clause	Existing Clause	New Clause
			Package is excluded from the bidders scope. However, the civil works associated with the FDPS system shall be executed by the bidder only."
2	New Annexure added as Annexure-22 in Chapter-16 of Technical Specifications of the Contract	-	Annexure-22- CABLE TRAY AND PIPE REQUIREMENT ON ISG RACK
3	New Annexure added as Annexure-23 in Chapter-16 of Technical Specifications of the Contract	-	Annexure-23 - Schematic Drawing of Service Water and Potable Water.

C) Annexure-02 (Rev-01) - SCOPE MATRIX FOR AHP & CHP EPC PACKAGE published along with Corrigendum-02 dated 19-12-2025 is revised and Annexure-2 (Rev-02) is attached along with this corrigendum.

D) Revised Annexure -3 (ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX) is attached along with this corrigendum.

E) Some of the Bidders sought clarifications in regard to the published tender specification. The clarifications issued by BHEL are as below;

SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
1	4-Annexure-4 Plot plan and flow diagram	Annexure-4, Plot Plan	Please clarify the applicability of piperack on boiler side and chimney side of ESP.	Bidder to refer the revised Plot Plan of CHP and AHP attached as Annexure along with this Corrigendum.
2	Electrical Scope matrix Annexure-3,	11KV & 3.3KV HT Switchgear	<p>BHEL to confirm dimension of 11KV switchgear and 3.3KV switchgear for finalization of MCC building dimension. We presume that all these switchgear will be kept in ER-1 AHP building.</p> <p>BHEL to confirm HT load except AHS load to finalise 11/3.45KV transformer size. This transformer will be supplied by AHP vendor.</p> <p>We understand that only two no feeder of 11KV will be tapped from station switchgear for 11KV switchgear installed in AHP ER-1 switchgear (free supply by BHEL). AHP vendor will take power from ER-1 11KV switchgear for 11/3.45KV trans.</p>	<p>Dimension of 11KV switchgear and 3.3KV switchgear is based upon the bidder's load list. Hence, the same shall be provided during detail engineering. Location of switchgears to be decided by bidder.</p> <p>11kV 3.3kV HT Load/ feeders for BHEL Use are not envisaged in 11kV, 3.3kV AHP switchgear. Bidder to refer revised scope matrix (Annexure-3, Rev-01)</p> <p>Specification is clear. Bidder to follow specifications. Bidder to refer revised scope matrix for uncabled 11KV source feeders available and Maximum MVA available as</p>

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SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
				Annexure-3 Rev-01 attached as part of this corrigendum.
3	Electrical Scope matrix Annexure-3,	Main Incomer cable	BHEL to conform actual location of HT Panel from where AHP bidder will take power to main AHP building for 11KV Power. Total power available is 29MVA. Please confirm 11KV Incomer size to consider HT cable.	Specification is clear. Bidder to follow specifications. Bidder to refer revised scope matrix for uncabled 11KV source feeders available and Maximum MVA Available as Annexure-3 Rev01 attached as part of this corrigendum.
4	Commercial	BOCW Cess	Please confirm the components on which BOCW Cess shall be applicable. Kindly clarify whether BOCW is to be levied only on Civil Works or on both Civil Works and Erection & Commissioning (E&C) activities.	Bidder to refer Section-IV GCC of Customer under Bid Document no DVC/C&M/ ENGINEERING/RTPS/ PH-II/EPC/SG regarding the applicability of the BOCW cess.
5	01_TECHNICAL CONDITION OF CONTRACT Cl. No. 3.7 DESIGN BASIS / INPUTS For Ash Handling System page 17 of 94 4. Annexure-4 Plot plan and Flow Diagram_Part1 Page 9 of 12	7) Pipe Racks and Cable Racks Bidder to..... tender drawing 9586-999-POM-F-006. Exact requirement will be provided during detailed engineering. The indicative requirement of BHEL pipes/Cables trays in bidder's pipe/cable rack is mentioned in the Annexure-4. Exact requirement will be provided during detailed engineering. Note: 1. The Pipe/cable rackerrection at site. 2. Pipes for c..... by EPC bidder over their pipe/cable rack. 6. Exceptions (if any)upon	Owner to note that Bidder shall consider the space & load of BHEL's scope pipe / Cable as indicated in 4. Annexure-4 Plot plan and Flow Diagram_Part1 (page 9 of 12) in the Bidders supplied pipe rack, if during detail engineering, there is no Bidder's pipe rack & BHEL's Cable / pipes are indicated / required then the respective pipe / cable rack shall not be in Bidder's scope. Kindly confirm.	Bidder to refer the revised Plot Plan of CHP and AHP attached as Annexure along with this corrigendum.

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SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
		the finalized layout in plot plan.		
6	Plot Plan;Dwg. No. PE-DG-528-100-M001	Pipe Rack	Please note that the plot plan shows pipe/cable rack between ESP and Chimney. Please note that no pipe or cable for ash handling will be routed in this area in Vacuum System. Hence please delete the same from our scope as done in the earlier projects. Moreover, please check the pipe rack in front of the ESP.	Pipe rack in the front side of ESP (between boiler and ESP) has to be provided by the bidder and should accommodate the DVC and BHEL Pipe and cable tray requirements. Pipe rack in the rear side of ESP (between ESP and ID Fan) shall be provided by the bidder depending on their requirement. If provided, this pipe rack shall accommodate DVC and BHEL pipe and cable tray requirement. Refer revised plot plan and BHEL pipe cum cable requirement enclosed as Annexure-22 (CABLE TRAY AND PIPE REQUIREMENT ON ISG RACK).
7	Plot Plan;Dwg. No. PE-DG-528-100-M001	Buildings and auxiliaries	We understand that locations shown for various AHP auxiliaries such as TAC House, PMCC-1, Hydrobin, slurry pump house are tentative and bidder can re-orient the same in the area proposed for these auxiliaries. Please confirm.	Bidder proposal is Noted. However, it is subject to acceptance by DVC and BHEL during detailed engineering.
8	Plot Plan;Dwg. No. PE-DG-528-100-M001	Intermediate silos	Please confirm that Intermediate silos are not applicable for Vacuum System.	It shall be as per DVC flow diagram and specification which are attached as part of the tender document.
9	Plot Plan;Dwg. No. PE-DG-528-100-M001	Classifier System (Cust. Scope)	Please clarify as classifier is mentioned as customer scope in the Plot plan.	Classifier system is in the scope of bidder.
10	Plot Plan;Dwg. No. PE-DG-528-100-M001	BHEL Pipes and cables	Please elaborate sizes your requirement to enable us size the pipe/cable rack.	Further details will be provided during detailed engineering.
11	SLD A-025	BA Jet Pump Discharge and Coarse Ash Slurry Pump Discharge	Please confirm that BA Jet Pump and CA Discharge pipes will be routed to only BA Slurry Sump and Not to Combined Ash Slurry Sump.	Refer DVC flow diagrams and specification which are attached as part of the tender document.
12	SLD A-025	Coarse Ash Slurry	Please note that neither the BA Slurry Sump nor the Coarse Ash Slurry sumps show in flow from the Coarse Ash Slurry Pumps. Please check and confirm	Refer DVC flow diagrams and specification which are attached as part of the tender document.
13	Clause no. 1.01.07 (xii), sub-section-IIA-16 page 11 of 17	Three (3) nos. of Airslides(as required) ..	Please let us know the use of airslides specified when there are already telescopic chutes specified for unloading. Please confirm the requirement.	It shall be provided as required. Refer Rail layout near Silo area also for design of unloading

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SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
				arrangement which are attached as part of the tender document.
14	Clause no. 1.02.01.02 (h), sub-section-IIA-16 page 14 of 17	Decanted water 1500 Cu.M	Please confirm that the scope of work for the bidder is only tap the water from the terminal inside the Plant as shown for slurry pipe. Supply of pump with motor and piping upto the terminal point is by others.	Terminal point of recovery water is given in the specification which are attached as part of the tender document.
16	TCC Clause no. 3.7, page 14 of 94	Sludge	Please confirm that the sludge will be routed to Combined Ash Slurry Sump only.	Refer DVC flow diagram which are attached as part of the tender document.
17	TCC Clause no. 3.7, page 14 of 94	Sludge	The capacities furnished are not clear. Please note that the total sludge to be considered seems to be $120+15+110 = 245$ Cu.M/Hr. This quantity seems to be too high. Please check and confirm as this will unnecessarily increase the size of slurry pump and make the slurry leaner.	Regarding various sludges to be considered in ash slurry sump/water tank AHP, the clarification is as under: A) Sludge from by BOP vendor of DVC: 1. Treated effluent flow is 300 m ³ /hr and intermittent. Based on Treated Effluent parameters provided below, Application shall be decided by Bidder. (Treated Effluent Parameters: Turbidity : <10 NTU & Oil : <5 ppm) 2. Sludge Flow is 80 m ³ /hr and continuous. 3. Effluent Flow from DM plant is 100 m ³ /hr and Intermittent Approximately working for 2-3 Hours/day These Pipes will be terminated Near TP-C for further piping by bidder. B) Sludge from BHEL's plants (to slurry sump): 1. The CPU N-Pit waste to ash slurry sump shall be 50 m ³ /hr for maximum 4 hours in 24 hrs. Generally, 3 times in a month under normal operating conditions. 2. A total of 680 m ³ /hr of water is used for APH washing both APH's during maintenance and shut down. This will be discharged to ash slurry sump 3. A total of approx 400 m ³ /hr of water is used for ESP washing during overhauling and planned shutdown. This will be discharged to ash slurry
18	TCC Clause no. 3.7 (f), page 15 of 94	Excess water to ETP ... 150 Cu.M/Hr.....	Please elaborate the effect of this on the sludge to be considered in the slurry pump capacity.	

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SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
				sump. With respect to above, slurry pump shall be designed with concurrence from BHEL/DVC during detailed engineering.
19	Scope Matrix	LHP & GHP	As there is no FGD, we assume that LHP and GHP is excluded from our scope.	Scope matrix is clear regarding the scope. LHP & GHP are not the part of the subject tender. Refer revised Annexure-2 (Rev-02) attached along with this corrigendum.
20	SLD A-27	No. of ESP hoppers	The SLD shows 120 ESP hoppers, however BHEL input states the No. of hoppers as 96. Hence please clarify the number of ESP hoppers to be considered.	Refer DVC/BHEL specification which are attached as part of the tender document.
21	Pipe/cable Trestle Layout 9586-999-POM-F-006 Rev. B		Please mark the owner/BHEL pipe sizes to be considered in the Plot Plan	Further details will be provided during detailed engineering.
22	Layout of roads XXXX-001-POC-A-004 Rev.A		There is no road shown between the boiler and the ESP. Please check confirm	Road is available in the plot plan attached as Annexure-4 of tender document.
23	Plot Plan;Dwg. No. PE-DG-528-100-M001	Silos	Please confirm that the silos can be located on the railway line for truck unloading instead locating the silo adjacent to the railway lines and providing air slide for wagon unloading.	It shall be decided during detail engineering in concurrence with BHEL/DVC
24	Clause no. 1.01.06 (E) (n), sub-section-IIA-16 page 9 of 17	Ash Classification and Bagging : 2 no. semi-Automatic bagging ...	We understand that only bagging machines are to be provided. The filled bags will transferred to ground near the bagging machine and no separated loaders are envisaged. Please confirm.	Specification is clear.
25	Clause 2.22 of GCC	Retention Amount of 5%	As insurance Surety Bond is a new instrument in India, most of insurance companies have strong preference to issue insurance surety bonds of short duration. We request BHEL to accept Insurance Surety Bond of initial validity period of 24 months from date of LOI which will be duly extended during the contract execution to meet the contractual requirements.	Tender Conditions Shall Prevail.

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SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
26	Annexure -2-Scope matrix Raghunathpur: Scope Matrix & terminal points for AHP & CHP EPC package		<p>Please confirm the Scope / Terminal Point for DFDS (Water & Compressed Air), Portable Water and Service Water to be consider in bidder's scope.</p> <p>Also, please confirm the number of pumps to be considereed for each of above application.</p>	<p>Bidder to refer Annexure-2 (scope matrix & enclosure to scope matrix) and clause no. 13.2.6 of technical conditions of contract (TCC), Chapter – XIII (Terminal points) for DFDS (Water & Compressed Air), Portable Water and Service Water.</p> <p>Bidder to note that only service water & potable water will be provided by BHEL at terminal points. Complete dust suppression system, service & potable water system including motorized isolation valves at the terminal points, pump house, pumps, compressors, piping with valves & fittings, pipe pedestals/rack including all civil, structural, mechanical, electrical and C&I shall be in bidder's scope.</p> <p>Also, refer clause no 13.1.3 (a) of Technical condition of contract, terminal point of Raw water/CTBD shall be read as near TP-C mentioned in DVC specification.</p>
27	General		Please confirm/ clarify the scope regarding Fire Fighting System to be considered in bidder's scope.	<p>Bidder to refer Sl. No PU-01 Sec VI/A Sub Section III Page 6-8 Clause No 5.01.00 b) in AMENDMENT NO. 1 TO TECHNICAL SPECIFICATION (SECTION VI) of DVC-RTPS PH-II (2x660MW)-SG ISLAND PACKAGE along with Clause no 5.01.00 b) of Section-A of Customer Specifications.</p> <p>Complete Fire Detection and Protection System (FDPS System) for the CHP and AHP Package is excluded from the bidders scope, however, the civil works associated with the FDPS system shall be executed by the bidder only.</p>

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SL. NO.	Reference Clause	Specification	Bidder's Query	BHEL's Clarification
28	Plot Plan; Dwg. No. PE-DG-528-100-M001	Combined Ash Slurry pumping from Combined Ash Slurry Pump House upto 5M inside the plant boundary.	Please note, that in the notes, the Pipe Cum Cable Rack/Pipe Pedestal (ISG Scope) is mentioned, however along the route it is mentioned only pipe rack. Please confirm that Pipe rack will be provided only at railway crossing and balance area the pipes can be routed on Pedestals.	Regarding laying of slurry pipes, Refer AMENDMENT NO-4 to technical specification (Section-VI), S.NO-MH-16

Note:

- 1) All other terms and conditions against this NIT shall remain unchanged.**
- 2) This corrigendum is to be submitted duly signed and stamped along with the Techno-commercial bid (Part- I).**

for BHARAT HEAVY ELECTRICALS LTD
Manager/ SCT- CPC

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REVISED ANNEXURE-02 (REV-02) – SCOPE MATRIX FOR AHP & CHP EPC PACKAGE

2x660 MW DVC RAGHUNATHPUR TPS PHASE-II, STEAM GENERATOR (SG) ISLAND PACKAGE									
Scope Matrix & terminal points for AHP & CHP EPC package									
BROAD SCOPE: The scope for complete Ash handling system and Coal Handling Systems shall include complete design, engineering, manufacture, fabrication, assembly, testing & inspection at manufacturer's works, painting, supply, packing, despatch, transportation, delivery to site, receipt, unloading, intra site 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, statutory requirement (if any), testing, inspection, commissioning, performance guarantee test and handing over to Owner, including all associated Mechanical, Electrical, Control & Instrumentation works, all auxiliary systems, Civil & Structural steel works, Architectural works, maintenance tools & tackles, mandatory spares, start-up and commissioning spares, lubricants & consumables 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 2X660 MW DVC Raghunathpur TPS Phase-II.									
Sl. No./ Chapter	Description	SCOPE IN AGENCY (EPC PKG VENDOR/BHEL)	Broad Scope	DESIGN / ENGG	CIVIL / STR / ARCH (SUPPLY & ERECTION / EXECUTION)	SUPPLY & ERECTION (MECH, ELEC, C&I)	TESTING / COMMISSIONING	Terminal Points Description	
DETAIL SCOPE								Remarks	
A ASH HANDLING SYSTEM									
1	Complete Ash handling plant as per descriptions given in NIT specification (DVC bidding document No.: DVC/C&M/Engineering/RTPS Ph-II/EPC/SG), BHEL technical enquiry specification and subsequent amendments, clarifications if any till placement of order.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	<p>AHP: Broad scope starts from (i) the outlet flange of ESP, AP, Duct, SCR inlet, SCR outlet and Economizer hoppers. Counter flanges at the outlet of respective hoppers shall be in EPC Package vendor's scope. (ii) the boiler furnace bottom (Scallop bar and seal plates are in BHEL's scope).</p>	1. Ash handling system flow diagram and plot plan are enclosed
2	Complete Auxiliary system for the Ash handling system like Air conditioning, Ventilation, zero liquid discharge/effluent system, Water systems [Service Water, Potable water, Raw/CTBD water,DMCW water, clarified water], Instrument air, weigh bridge, Hoists, Cranes, Elevator, sump pumps etc...as per descriptions given in NIT specification (DVC bidding document No.: DVC/C&M/Engineering/RTPS Ph-II/EPC/SG), BHEL technical enquiry specification and subsequent amendments, clarifications if any till placement of order.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	<p>Following water/air shall be terminated at Terminal point as per BHEL specification. Installation of Isolation valves and valve station with instrumentation at the tapping point and further distribution to the Application points shall be done by EPC package vendor.</p> <p>(a) Raw water/CTBD water/Service water/potable water: Refer Section-VI,Part-A, Sub-section-III of Technical specification.</p> <p>(b) DMCW (passivated): (i) 10m near Compressor house-1 (ii) 10m near BA Slurry pump house</p> <p>(c) Instrument Air with Air receivers: (i) No. at ESP area Unit-1, (ii) 1 No. at ESP area Unit-2 (iii) 1 No. at FA Silo area</p> <p>(d) Service air: 1 point at ESP Unit-1</p>	
B COAL CONVEYING SYSTEM IN THE MAIN PLANT									
1	Complete Coal handling plant (Coal conveying system in main plant area) as per descriptions given in DVC/NTPC tender specifications (Document no.: DVC/C&M/Engineering/RTPS Ph-II/EPC/SG), BHEL technical enquiry specification and subsequent amendments & clarifications, if any till placement of order.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	<p>CHP: 1. Broad scope starts from skirt board of conv. 19A/19B taking feed from DVC's conveyor 18A / 18B chutes at DVC's TP-17 and feeding coal to the respective RH & LH side bunker bays of Unit #3 & Unit#4 by Mobile Trippers # 1#2, #3 & #4 as marked & demarcated in the enclosed flow diagram.</p> <p>2. Support bracket for gallery in Bunker building column shall be provided by BHEL. Required Stool Pieces is in EPC Vendor Scope.</p> <p>3. Only RCC foundation of Conveyors Equipment above bunker bay shall be provided by BHEL</p> <p>4. Bunker Bay ventilation shall be in EPC vendor's scope.</p>	1. Coal Flow Diagram for CHP System demarcating terminal points is enclosed. 2. Bunker gratings and Bunker monorails shall be supplied by BHEL. 3. Tripper floor elevation shall be El+56.7m . Refer bunker sizing details enclosed along with flow diagram. 4. For distance of CHP TP to 1st column of mill bunkers, refer keyplan of boilers enclosed along with flow diagram.
2	Complete auxiliary systems for above mentioned systems (CHP) like Dust Extraction system, Dust suppression system, Air conditioning, Ventilation, Service water, Zero Liquid Discharge system, sump pumps (as applicable) etc...as per descriptions given in DVC/NTPC tender specifications (Document no.: DVC/C&M/Engineering/RTPS Ph-II/EPC/SG), BHEL technical enquiry specification and subsequent amendments & clarifications, if any till placement of order.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	<p>1. Coal handling plant area's wash/plant water to be terminated upto Employer's (DVC) proposed CSSP to be terminated upto Ash Slurry Sump/tank or Employer's (DVC) proposed CSSP/LET/P WSWS with all necessary piping fittings, header pipes, pedestals, pipe racks (as applicable), wrapping coating etc .</p> <p>2. Tapping point terminals for Service water: a: Terminal point-1: 45 CMH @ Pr. of 15 MWC within 5 m of CHP pump house near TP-17.</p> <p>3. Tapping point terminals for Potable water: a: Terminal point-1: 8 CMH @ Pr. of 15 MWC within 5 m of CHP Pump house near TP-17.</p>	Coal Flow Diagram for CHP System demarcating terminal points is enclosed.
C COMMON FOR AHP, CHP, BMHP, MRHS									
1	3D modelling for AHP, CHP, BMHP, MRHS	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	Complete AHP, CHP, BMHP model including Civil, structural, mechanical, electrical, C&I in 3D software All Structures- RC & Steel Structure in Tekla	
2	DELETED (Rev02)	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	DELETED	
5	Road & drains	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		The scope of road & drain shall cover for the entire buildings/facilities and Drainage system shall be designed considering the drainage network of entire plant. Scope of road work include giving access to all facilities covered under AHP, CHP scope from road which is being executed by BHEL
7	Detailed Geotechnical Investigation.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		Attached
8	Topographical Survey.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		Following Drawings are attached for reference A) PE-DG-528-601-C004-TOPOGRAPHICAL SURVEY OF PLANT AREA-SPOT LEVELS WITH EXISTING FEATURES B) PE-DG-528-601-C005-R0-TOPOGRAPHICAL SURVEY OF PLANT AREA-CONTOURS WITH EXISTING FEATURES
9	Site clearance including cutting of trees of girth less than 30 centimeters. Cutting of trees of girth more than 30cm shall be done by the Owner, however, removal and disposal of roots, trees of girth less than 30cm and other vegetation is in Bidder's scope.	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		
10	Levelling and grading	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		Micro grading (+/- 500mm) shall be in vendor scope

2x660 MW DVC RAGHUNATHPUR TPS PHASE-II, STEAM GENERATOR (SG) ISLAND PACKAGE										
Scope Matrix & terminal points for AHP & CHP EPC package										
BROAD SCOPE: The scope for complete Ash handling system and Coal Handling Systems shall include complete design, engineering, manufacture, fabrication, assembly, testing & inspection at manufacturer's works, painting, supply, packing, despatch, transportation, delivery to site, receipt, unloading, intra site 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, statutory requirement (if any), testing, inspection, commissioning, performance guarantee test and handing over to Owner, including all associated Mechanical, Electrical, Control & Instrumentation works, all auxiliary systems, Civil & Structural steel works, Architectural works, maintenance tools & tackles, mandatory spares, start-up and commissioning spares, lubricants & consumables 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 2X660 MW DVC Raghunathpur TPS Phase-II.										
Sl. No / Chapter	Description	SCOPE IN AGENCY (EPC PKG VENDOR/BHEL)	Broad Scope	DETAIL SCOPE	DESIGN / ENGG	CIVIL/ STR/ ARCH (SUPPLY & ERECTION / EXECUTION)	SUPPLY & ERECTION (MECH, ELEC, C&I)	TESTING / COMMISSIONING	Terminal Points Description	Remarks
11	Sewarage system	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		Sewarage network/system shall be developed for CHP & AHP and MRHS buildings by EPC package vendor, including construction of Manholes/Collection pits/Lifting pits and under ground piping network from buildings to the Collection pits/Lifting pits. Scope also includes Pump supporting and handling structures (Monorail structure) at Collection/Lifting pits. Execution of collection pit is in the scope of bidder.
14	Dismantling of any existing structures/buildings for execution of AHP, CHP MRHS facilities	EPC PKG VENDOR	Complete Pkg on EPC Basis	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		
D MILL REJECT HANDLING SYSTEM SYSTEM										
1	Complete Mill Reject handling plant as per descriptions given in NIT specification (DVC bidding document No : DVC/C&M/Engineering/ RTPS Ph-II/EPC/SG), BHEL technical enquiry specification and subsequent amendments, clarifications if any till placement of order.	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR	EPC PKG VENDOR		

Note 1 : Necessary input drawings for BTG areas shall be provided to EPC Vendor.

Note 2 :The above list is not exhaustive. In case of any ambiguity, bidder may note that all the work associated with completeness of AHP, CHP and MRHS shall be in EPC vendor's scope.

Note 3: Interconnection/termination/jointing of various equipment/systems/pipes at all above mentioned terminal points shall be in the scope of EPC Vendor unless specified elsewhere in the tender document.

Corrigendum - 4 dated 29/12/2025 to CPC Tender No. BHEL/CPC/ RTP/EPC_AHP_CHP/26/051

Revised Annexure -3 (Rev-01) - ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR					2X660 MW RAGHUNATHPUR AHP and CHP	Rev: 01
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS
1	<p>Complete Electrical and C&I System except for BHEL free issue equipment's as below</p> <p>1) 11KV Switchboard 2) 3.3KV Switchboard 3) 3.3KV HT Motor 4) DCS for CHP by End user 5) DCS for AHP by BHEL 6) VMS</p> <p>Note: 1. All AC/DC/UPS/Aux Power supply required for BHEL free issue equipment's shall be in bidders scope. 2.O&M of BHEL Free issue equipment's shall be in bidders scope.</p>	EPC Bidder	EPC Bidder	EPC Bidder	EPC Bidder	<p>Location of BHEL free issue equipments shall be decided based on final layout engineering by successful bidder and space shall be considered by bidder in switchgear building/control Room with all facilities. All other required civil facilities like anchor/kerb angles/insert plates/support structures/base frames/channels etc. shall be considered by bidder . Supply and E&C of all HT/LT power, control, signal, and communication cables, Cable trays, supports, earthing, electronic earthing material for BHEL free issue items shall be in Bidder's scope</p> <p>Unloading and storage of BHEL free issue items shall be in the scope of BHEL. BHEL region shall issue these items to EPC bidder. Local loading/unloading /transportation of these materials from BHEL & END User storage to bidders storage/facilities shall be in bidders scope.</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. Load of 100KVA for each MCC shall be considered for these loads while transformer sizing.</p> <p>Customer requirement of feeders, cables & cabling in bidders area/facilities is in bidders scope.</p> <p>Data Concentrator system or Relay Network for BHEL free issue equipment as applicable up to Central Control room (TG building) shall in bidders scope . This battery limit is also applicable for LT switchgear .</p> <p>Bidder shall provide the Illumination, Earthing, Lightning protection for all areas where Civil & structural 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>Security of all equipment's including BHEL free supply till handing over to end customer is in scope of bidder.</p> <p>Obtaining Statutory clearance is in Bidders scope including BHEL free issue equipment's.</p>
2	<p>1. MCC buildings/control rooms/ any other electrical building required as per scope of this package. Any requirement of space in bidders building for customers use as mentioned in Customer specification</p> <p>2. Cable trestle/rack required as below in is bidders scope.</p> <p>a. For all bidders facilities .</p> <p>b. For BHEL free supply items located in BHEL buildings & bidder buildings</p> <p>c. Any interconnection required for bidder equipment from BHEL buildings</p> <p>d. Cable rack required for customer use as mentioned in Customer specification</p>	EPC bidder	EPC bidder	EPC bidder	EPC bidder	<p>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>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>The interconnection between Bidders earthing and Existing/Main earth grid is in Bidder scope.</p> <p>Please refer plot plan Annexure 4 for further details</p>
BHEL FREE ISSUE EQUIPMENTS						
3	<p>11KV and 3.3KV Switchboard</p> <p>One number each of 11kV and 3.3kV HT switchboards, with the maximum available outgoing feeders as mentioned in SI No 11 and 12, shall be provided to the bidder as a BHEL free issue equipment for the entire scope of work.</p>	EPC Bidder	BHEL BHOPAL	BHEL BHOPAL	EPC Bidder	<p>Bidder to refer SI No 10 for 11kV power supply source availability.</p> <p>Bidder shall submit Electrical load list and transformer sizing within 3 months from LOI</p> <p>All Upstream/downstream tripping and interface/signal exchange between SI No 10, 11, 12 shall be in the bidder's scope.</p> <p>The bidder shall ensure that the maximum loading at the 11kV level does not exceed the maximum cut-off MVA specified in SI. No. 10. Bidder shall determine the appropriate rating of the 11/3.3 kV transformer and ensure that the maximum loading at the 11 kV level does not exceed the maximum cut-off MVA specified in SI. No. 10.</p> <p>Few additional 11KV/3.3KV feeder will be added in these boards for BHEL requirement and exact quantity will be decided during detailed engineering. Increase in panel length due to this shall be accommodated by bidder by considering additional space without any commercial implication to BHEL. Cable tray/Supports/earthing within the bidders switchgear building is in the scope of bidder.</p> <p>During the engineering of the HT bus duct, interconnection between the bidder-supplied 11/3.3 kV transformer and the BHEL free-issued 3.3 kV switchboard, the bidder shall ensure that relevant inputs are obtained from BHEL for the termination of the HT bus duct at the 3.3 kV switchgear end.</p> <p>The bidder shall also ensure that the forward phase sequence, correct CT parameters are maintained during detailed engineering of 11kV and 3.3KV Switchboard.</p> <p>It is the bidder's responsibility to avoid any mismatch in this interface, and any modifications required at a later stage shall be within the bidder's scope without any commercial implication to BHEL</p>

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR						2X660 MW RAGHUNATHPUR AHP and CHP	Rev: 01
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS	
4	HT Motors for Conveyors, Water and Slurry Pump application Bidder to refer SI No 13 for BHEL free issue HT motors available to bidder Note : HT motor for any other applications other than Conveyors, Water and Slurry Pump is in bidders scope.	EPC Bidder	BHEL BHOPAL	BHEL BHOPAL	EPC Bidder	<p>Bidder shall provide qty, rating, TS curve, speed, GD2 type of mounting and coupling details as input to BHEL within 4 months from LOI.</p> <p>Temperature measuring system, LPBS for all BHEL free issue HT motors shall be in the bidder's scope .</p> <p>The supply of consumables and lubrication for BHEL free issue HT motors is included in the bidder's scope.</p> <p>Before shifting motors from BHEL storage to bidders storage/facilities, the bidder shall conduct motor testing.</p> <p>In case any fault occurs during operation and BHEL recommends repair at the factory premises, the bidder shall decouple/remove the motor and shift it to the BHEL storage. After repair, the bidder shall again unload, erect and test the motor.</p> <p>If any EPC bidder designed equipment requires job motor during inspection of the equipment, then BHEL shall transport directly to manufacturers works. post inspection despatch of motor directly to project site including loading, unloading storage is in bidders scope. Any damage during transit shall be dealt as per BHEL commercial terms and conditions</p>	
5	AHP (DCS) , software development and other equipment related to DCS (DCS panels, Network panels, LVS, PCs, Printers, furniture desk, Chairs, PC Consoles, Servers, EMS, OWS/OEWS/EWS)	EPC Bidder	BHEL EDN	BHEL EDN	EPC Bidder	<p>Bidder's scope includes the following:</p> <ol style="list-style-type: none"> 1. Detailed IO list including BHEL free issue items , KKS tagging, P&ID Diagram, set-points, Control Philosophy & write up, block logic diagram & HMI screens (for software development), Functional grouping. 2. Detailed IO list shall be submitted within 6 months of LOI in the format prescribed by BHEL which shall be shared to sucessful bidder . Any addition of IO's at later stage is not acceptable. 3. Bidder shall visit BHEL/Customer during software development, application testing , FAT and ensure the completeness of software for E&C. 4. Any logic modificationduring commissioning stage shall be executed by EPC bidder. 5. 24V DC and UPS system (UPS load and 24V DC load applicable to BHEL free supplied equipments shall be shared to successful bidder during detailed engineering by BHEL-EDN.Bidder to size the rating of UPS and DC system considering the above load plus any load required for bidder supplied equipments.) 6. Complete PLC system for any of the sub system of AHP package if applicable as per speciation or OEM recommendation shall be in bidders scope including its HMI, UPS, PC, printers, battery, battery charger etc. 7. Bidder to coordinate with BHEL-EDN before finalisation of field bus based instruments/actuator regarding communication protocol. 	
5.A	CHP (DCS) software development and other equipment related to DCS (DCS panels, Network panels, LVS, PCs, Printers, furniture desk, Chairs, PC Consoles, Servers, EMS, OWS/OEWS/EWS)	EPC Bidder	END USER	END USER	EPC Bidder	<p>Bidder's scope includes the following:</p> <ol style="list-style-type: none"> 1. Detailed IO list including BHEL free issue items , KKS tagging, P&ID Diagram, set-points, Control Philosophy & write up, block logic diagram & HMI screens (for software development), Functional grouping. 2. Detailed IO list shall be submitted within 6 months of LOI in the format prescribed by BHEL which shall be shared to sucessful bidder . Any addition of IO's at later stage is not acceptable. 3. Bidder shall visit Customer/ Customer DCS Vendor during software development, application testing , FAT and ensure the completeness of software for E&C. 4. Any logic modificationduring commissioning stage shall be executed by EPC bidder. 5. 24V DC and UPS system (UPS load and 24V DC load applicable to BHEL free supplied equipments shall be shared to successful bidder during detailed engineering by BHEL / END USER. Bidder to size the rating of UPS and DC system considering the above load plus any load required for bidder supplied equipments.) 6. Complete PLC system for any of the sub system of CHP package if applicable(Like CSU) as per speciation or OEM recommendation shall be in bidders scope including its HMI, UPS, PC, printers, battery, battery charger etc. 7. Bidder to coordinate with BHEL / END USER before finalisation of field bus based instruments/actuator regarding communication protocol. 	
6	Vibration Monitoring/Analysis System (VMS/VMAS)	EPC Bidder	BHEL EDN	BHEL EDN/EPC Bidder	EPC Bidder	<p>Bidder to provide sensor and key phasor mounting arrangement for bidder supplied equipment's as per contractual requirement.</p> <p>Sensors, Prefab Sensor cables from sensor up to Field mounted local JB near Motor and VMS panel shall be supplied as free issue to Bidder.</p> <p>Balance items required for completeness of the system are in the scope of Bidder.</p>	
7	Roof Top Solar System	BHEL-SBD/RUDRAPUR	EPC Bidder	EPC Bidder	EPC Bidder	<p>For estimation, the Bidder may take 50 Kwh of the total capacity of the Solar Plant Defined for this Project as a whole. Further before placement of the order, Bidder to ensure that the items thus procured shall be of the same make as installed in the main Plant area supplied by BHEL.</p>	
BHEL Supply items which are to be located in Bidder's scope of buildings in addition to BHEL Free supply Items							
8	CCVM System	BHEL EDN / EPC BIDDER	BHEL EDN	BHEL EDN	BHEL PS REGION	<p>Location of these equipment's shall be decided based on final layout engineering by successful bidder and space shall be considered by bidder in switchgear building, control room, any other buildings.</p> <p>All other required civil facilities like anchor/kerb angles/insert plates/support structures/base frames/channels etc. shall be considered by bidder as required during Detailed ENGG.</p>	
9	PA System	BHEL PEM / EPC BIDDER	BHEL PEM	BHEL PEM	BHEL PS REGION		

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR					2X660 MW RAGHUNATHPUR AHP and CHP	Rev: 01
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS
Available feeder and motor list to bidder. Below mentioned number is maximum available offered as free supply to bidder, Any additional requirement shall be supplied by bidder as per bidder design requirement without any commercial implication to BHEL.						
10	List of uncabled 11KV source feeders available to bidder. a)Only 2 No of 11KV uncabled Feeder shall be provided by BHEL (Customer Station Board) to bidder for AHP and CHP application at two locations as mentioned below: Location-1: One feeder at MV Switchgear room of Power house building: Customer station board 3SB Location-2: One feeder at MV Switchgear room of Power house building: Customer station board 4SB b) Only 4 No's of 11KV uncabled Feeder shall be provided by BHEL (Customer Unit Board) for Unitized Ash extraction 11/0.433kV Transformer application at two locations as mentioned below: Location-1: Two feeders at MV Switchgear room of Power house building :Customer unit board 3UA & 3UB. Location-2: Two feeders at MV Switchgear room of Power house building :Customer unit board 4UA & 4UB. c) Only 2 No of 11KV uncabled Feeder shall be provided by BHEL (Customer Station Board) to bidder for CHP Bunker Area application at two locations as mentioned below: Location-1: One feeder at MV Switchgear room of Power house building: Customer station board 3SB Location-2: One feeder at MV Switchgear room of Power house building: Customer station board 4SB				a) 11KV tie feeder for 11 kV switchboard at SI No 3- Maximum MVA Available 21.8 MVA b) 11KV transformer feeder (11/0.433kV) - Maximum MVA Available is 2.0 MVA for each unitized AHP Ash extraction Board c) 11KV transformer feeder (11/0.433kV) - Maximum MVA Available is 2.0 MVA for CHP Bunker area	Space will be provided in Customer trestle from Main Power House MV Switchgear room to C row Column for 11kV cable (bidder's scope). Trays and support shall be in Bidder's scope. Further cable trestle , cable trays & supports for this shall be in bidder scope.
11	List of 11KV O/G feeders available to bidder. Location of switchboard : To be decided by Bidder				a) 11KV Transformer Feeder (11/3.3kV)- up to 16MVA b) 11KV Transformer Feeder (11/0433kV)- up to 2500KVA	a) 2 Nos b) 07 Nos
12	List of 3.3KV O/G feeders available to bidder. Location of switchboard : To be decided by Bidder				a) 3.3KV Motor feeder b) 3.3KV Transformer Feeder VFD application	a) 51 Nos b) 2 Nos
13	BHEL free issue HT motors available to bidder				3.3KV Motor	29 Nos
14	Battery limit for hopper level integration of AHP system					
14A	ESP Hopper High and Low Level switches Following Information and provision will be made available to Bidder: #1. BHEL Ranipet will provide height of ESP hopper at which High and Low Level switch needs to be erected by bidder. Refer Annexure-3B for details. #2. ALI erection drawing for ESP hopper High and Low Level switch shall be provided by BHEL Ranipet, which shall be shared to successful bidder. *3. Provision for mounting (required opening, providing hopper insulation & cladding) of High and Low Level switches and access platform/ladder shall be provided by respective POWER SECTOR region. Power sector shall provide proper approach & clearance for mounting the Instrument / cable trays/ cable conduits	AHP BIDDER/ #BHEL-RANIPET	AHP BIDDER/ #BHEL-RANIPET	AHP BIDDER	AHP BIDDER/ *PS-Region	The detailed scope of AHP EPC bidder includes. 1.Design & Supply of High and Low Level switches along with all mounting arrangements. Each instrument shall have the provision to terminate 2 cables and one probe. 2.Design & Supply of 4 No's Local Instrument JB of minimum 120 terminals for each pass. Total No's of JB's shall be 4XNo of passes. These JB's shall be mounted near ESP Hopper platform. 3. 2NO contacts each from ALI High and each ALI Low level switch of each ESP hopper shall be wired upto these JB's. One NO contact of ALI high and ALI low of all fields of one bus-section of one ESP pass shall be wired to JB-1. Similarly, second NO contact of ALI high and ALI low of all fields of one bus-section of one ESP pass shall be wired to JB-2. The second bus section of each ESP pass shall have similar set of 2 JB's . Hence, 4 Nos of JB will be applicable for every ESP pass. Similar arrangement is applicable for all the ESP passes. 4.Design & Supply of Power, Control / Instrumentation Cable with all accessories, flexible conduits for hooking of Level switch signals from each Level switch to Local Instrument JB. Separate cable shall be considered for each Level switch. 5.Design & Supply of Control / Instrumentation Cable with all accessories for hooking of Level switch signals from Contact Multiplier at ESP MCC to AHP DCS 6.Design & Supply of supports for installation of instrument /controller / cable trays mounting including layout for cable tray for above cabling activities. 7.Design considering High and Low Level signals in AHP DCS IO list. 8.Installation, Testing & Commissioning at site. 9. Calibration of Level switches till handing over of the AHP system 10. The end customer tender specifications shall be referred for compliance wrt system design. Ranipet/PS Region scope includes. 1.Design & Supply of Power, Control / Instrumentation Cable with all accessories for hooking of Level switch signals from Local Instrument JB-1 to ESP MCC upto Contact multiplier module 2.Design of Complete Power supply & Distribution From ESP MCC upto Local Instrument JB. 3.Design & Supply of supports for installation of cable trays including layout for cable tray for above cabling activities 1,2 of BHEL scope. 4. Provision of Potential Free contact in contact multiplier module for all the Level switch signal at ESP MCC Module/feeder

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR					2X660 MW RAGHUNATHPUR AHP and CHP	Rev: 01
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS
14B	<p>ESP Hopper Level Scanner Following Information and provision will be made available to Bidder:</p> <p>#1. BHEL Ranipet will provide hopper drawing / ESP drawing , which shall be shared to successful bidder.</p> <p>#2. The mounting arrangement for 3DLS/ NOGS will be finalised by AHP vendor based on the inputs from 3DLS/NOGS vendor.</p> <p>*3. Provision for mounting (required opening, providing hopper insulation & cladding) of Level Scanner and access platform/ladder shall be provided by respective POWER SECTOR region. Power sector shall provide proper approach & clearance for mounting the Instrument / cable trays.</p>	AHP BIDDER/ #BHEL-RANIPET	AHP BIDDER/ #BHEL-RANIPET	AHP BIDDER	AHP BIDDER/ *PS-Region	<p>The detailed scope of AHP EPC bidder includes.</p> <p>1.Design & Supply of 3DLS / NOGS system along with power supply and all mounting arrangements for mounting in ESP hoppers.</p> <p>2. Design and supply of local instrument JB at ESP hopper area for termination of the output signals of 3DLS / NOGS. Deriving 24V DC supply from 230 V AC, as per requirement shall be made available in the JB supplied.</p> <p>3a. 3DLS- In case of 3DLS, two signals from each instrument, one 4-20mA and one serial communication(like RS-485). Both the signals shall be wired to the local JB at ESP hopper area by AHP vendor. One JB for one ESP is generally envisaged . Cabling of 4-20 mA signals from local JB till main plant DCS shall be by BHEL . Required inputs/ details to display the average hopper level at main DCS based on 4-20 mA signal shall be provided by AHP /3DLS vendor. The serial communication signals (such as RS-485) shall be made available at ESP control room. Cabling of serial communication from local JB till ESP Control room shall be by AHP Bidder. AHP/3DLS vendor shall provide the operator PC station with software at ESP MCC to have the 3D visualisation of ESP hopper level.</p> <p>3b. NOGS- In case of NOGS , the NOGS system provides 4-20 mA signals and relay contacts corresponding to hopper ash level. One local JB for one ESP is generally envisaged for 4-20 mA signals catering to the requirements of one ESP pass. This local JB is to be provided with 4-20 mA isolator which shall multiply each of the 4-20 mA signal into two. Cabling for extending 4-20 mA from local JB till main DCS shall be by BHEL . Required inputs/ details to display the average hopper level at main DCS based on NOGS signal shall be provided by AHP vendor. Further, the second set of 4-20 mA signals would be extended to ESP control room. Cabling from local JB till ESP Control room shall be by BHEL. AHP vendor has to provide the operator PC station with software/ESP Level indicator at ESP control ROOM to display the ESP hopper level.</p> <p>4.Design of Complete Power supply(230V) & Distribution from AHP MCC upto Local Instrument JB.</p> <p>5. Power supply cabling from Local instrument JB to each instrument</p> <p>6.Design & Supply of supports for installation of instrument /controller / cable trays mounting including layout for cable tray for above cabling activities.</p> <p>7.Installation, Testing & Commissioning of 3DLS/ NOGS at site.</p> <p>8. Calibration of 3DLS / NOGS , if required, till handing over of the AHP system</p> <p>9. The end customer tender specifications shall be referred for compliance wrt system design.</p> <p>Ranipet/PS Region scope includes.</p> <p>1.Design & Supply of Power, Control / Instrumentation Cable with all accessories for hooking of Level Scanner signals from Local Instrument JB to ESP MCC/Main Plant DCS (Spare terminals of dual O/P Signal)</p> <p>2.Design & Supply of supports for installation of cable trays including layout for cable tray for above cabling activities 1 of BHEL scope</p>
15	<p>APH/ECO/DUCT/SCR Hopper High & Low Level switches and Level Transmitters As applicable Following Information and provision will be made available to Bidder:</p> <p>#1. BHEL Trichy will provide quantity, specification and height of hopper at which level switch needs to be erected to bidder. Refer Annexure-3C for details.</p> <p>*2. Provision for mounting (required opening, providing hopper insulation & cladding) of level switches/transmitters and access platform/ladder shall be provided by respective POWER SECTOR region. Power sector shall provide proper approach & clearance for mounting the Instrument / cable trays.</p>	BHEL-TRICHY#/ AHP BIDDER	BHEL-TRICHY#/ AHP BIDDER	AHP BIDDER	AHP BIDDER/ PS-Region*	<p>The detailed scope of AHP EPC bidder includes.</p> <p>1.Design & Supply of level switches & level transmitters(As applicable) along with all mounting arrangements</p> <p>2.Design & Supply of Local Instrument JB for Wiring all 2 NO/NC contacts / Dual output AI signal (8 wires / 4 Pair F Type)</p> <p>3.Cabling upto Local Instrument JB from Level Switches/Transmitter and further upto DCS for Hooking the Level switch signals at AHP DCS</p> <p>4.Design for Complete Power supply & Distribution from AHP UPS.</p> <p>5.Design & Supply of Power, Control / Instrumentation Cable with all accessories for hooking of Level switch / transmitter signals from Instrument to AHP DCS.</p> <p>6.Design considering Level High / Level Low & Level Transmitter DI & AI signals in AHP DCS IO list.</p> <p>7.Design & Supply of supports for installation of instrument /controller / cable trays mounting including layout for cable tray.</p> <p>8.Installation, Testing & Commissioning at site.</p> <p>9. Calibration of Level switch till handing over of the AHP system</p> <p>Trichy/PS Region scope includes.</p> <p>1.Design & Supply of Control / Instrumentation Cable with all accessories for hooking of Level switch signals from Local Instrument JB to Main Plant DCS</p> <p>2.Design & Supply of supports for installation of cable trays including layout for cable tray for above cabling activities.</p>
Name of BHEL UNIT for coordination with successful bidder of various system during Engineering						
SI No	System					
A	Plot Plan with Switchgear location, cable routing, earthing, illumination					
B	Electrical and C&I system other than below listed					
1	Design and integration of 3.3KV and 11KV system along with upstream breaker interface					
2	VMS, UPS, 24V DC System					
2.1	DCS for AHP					
2.2	DCS for CHP					
3	CCVM System					
4	PA System					
5	Roof Top Solar System					
6	HT Motors for Conveyors, Water and Slurry Pump					

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR					2X660 MW RAGHUNATHPUR AHP and CHP	Rev: 01
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS
7	ESP Hopper Level					BHEL-RANIPET
8	APH/ECO/DUCT/SCR Hopper Level					BHEL-TRICHY
9	Fire Fighting and FDA system					BHEL-PE&SD

Corrigendum - 4 dated 29/12/2025 to CPC Tender No. BHEL/CPC/ RTP/EPC_AHP_CHP/26/051

Annexure-22- CABLE TRAY AND PIPE REQUIREMENT ON ISG RACK

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RAT HEAVY ELECTRICALS LIMITED// इस दस्तावेज की जानकारी भारत हेवी इलेक्ट्रिकल
o the interest of the company. इसका उपयोग प्रत्यक्ष या अप्रत्यक्ष रूप से किसी भी

ELECTRONIC FILE NAME : PE-DG-528-100-M001

LIST OF BUILDING/EQUIPMENT SHOWN

DESCRIPTION
MAIN PLANT – BOILER
MAIN PLANT – ELECTROSTATIC PRECIPITATOR
MAIN PLANT – CHIMNEY
FGD – ABSORBER
MAIN PLANT – ESP CUM FGD CONTROL ROOM
MAIN PLANT – COMPRESSOR HOUSE
CHP – CHP PUMP HOUSE
AHP – AHP MCC-2
AHP – CLASSIFIER SYSTEM
CHP – CHP MCC ROOM
CUSTOMER – SPACE FOR CO2 CAPTURE
CUSTOMER – SPACE FOR CPU REGEN
AHP – ASH SLURRY TRANSPORTATION PUMP HOUSE
AHP – CAC COMPRESSOR
AHP – AHP MCC-1 CUM CONTROL ROOM
AHP – TAC COMPRESSOR
AHP – DEWATERING BIN
AHP – COMBINED ASH SLURRY PUMP HOUSE
FGD – GYPSUM DEWATERING BUILDING
FGD – GYPSUM STORAGE SHED
FGD – BALL MILL BUILDING
FGD – LIME STONE SLURRY TANKS
AHP – ASH CORRIDOR
MAIN PLANT – FUEL OIL+ METHENOL PRESS PUMP HOUSE
AHP – AHP MCC-3
AHP – ASH SILOS
AHP – SILO UTILITY BUILDING
FGD – WEIGH BRIDGE
MISC. – 2 NO. SHED FOR CONST. AND O&M WORKERS
MISC. – SEWAGE TREATMENT PLANT

PEM RACK PIPE / CABLE REQUIREMENT

DTD 19.12.2025

OTES:-

- ALL DIMENSIONS AND LEVELS ARE IN METERS.
- ±0.00 OF MAIN PLANT AREA CORRESPONDS TO RL(+)154.50M.
- 2.1. FFL OF MAIN PLANT BUILDING EL. 0.00M
- 2.2. TOP OF PAVING FOR BOILER / ESP AREA EL. (-) 0.20M
- 2.3. FFL OF MILL BUNKER BUILDING AND CHIMNEY EL. 0.00M
- 2.4. FFL OF OTHER BUILDINGS IN MAIN PLANT AREA EL. 0.00M
- 2.5. FFL OF OFFSITE BUILDINGS 500 MM ABOVE FGL OF RESPECTIVE AREA
- ROUTING OF VARIOUS PIPES AS SHOWN ARE TENTATIVE. SAME WILL BE ROUTED AS PER SITE FEASIBILITY.
- BUILDINGS/FACILITES OTHER THAN BIDDERS SCOPE ARE SHOWN AS INDICATIVE ONLY.
- THE COORDINATE OF SILO IS INDICATED AS PER DVC MAIL DTD. 01.04.2025 AND MAY HAVE MINOR CHANGES DURING DETAIL ENGINEERING.

CUSTOMER DRG. NO.		2115-102-002-PVM-F-045						
हक/CUSTOMER	DAMODAR VALLEY CORPORATION							
CONSULTANT	-----							
रयोजना/PROJECT	2x660 MW RAGUNATHPUR-SG-II (SG ISLAND)							
 BHEL	भारत हेवी इलेक्ट्रिकल्स लिमिटेड BHARAT HEAVY ELECTRICALS LTD पावर सेक्टर/POWER SECTOR परियोजना अभियांत्रिकी प्रबंधन PROJECT ENGINEERING MANAGEMENT नोएडा (उ० प्र०)/NOIDA (U.P.)				DEPT CODE M	नाम NAME	हस्ताक्षर SIGNATURE	
	तैयारकर्ता/DRN	DB	-Sd-					
डिजाइनकर्ता/DESN	DB	-Sd-						
जांचकर्ता/CHD	SW	-Sd-						
अनुमोदनकर्ता/APPD	BKA	-Sd-						
प्रक्रिया/TITLE		MAIN EQUIPMENT LAYOUT SG ISLAND WITH FGD						
प्रौद्योगिकी CIVIL	इलेक्ट्रिकल ELEC	एसएसडीई S&CE	डब्ल्यूएसई WSE	मैक्स MAX	विभाग DEPT.	स्केल — SCALE — 1:1750	ड्राइंग संख्या / DRAWING NO.	
					हस्ताक्षर SIGN दिनांक DATE	 	PE-DG-528-100-M	
						शीट SHEET	1 OF 1	पुनरीक्षण REV.

Corrigendum - 4 dated 29/12/2025 to CPC Tender No. BHEL/CPC/ RTP/EPC_AHP_CHP/26/051

Annexure-23 - Schematic Drawing of Service Water and Potable Water



