

Corrigendum - 5 dated 16/10/2025 to CPC Tender No. BHEL/CPC/YNR/EPC-AHP/26/041

Name of Work:

“EPC package for Ash Handling Plant at Yamunanagar Super Thermal Power Project (1x800 MW)”

A) Replies to Bidder’s queries as mentioned below:

SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
1	TCC clause no. 3.14 : pg. 24 of 90, PT plant sludge	The PT plant and other effluent Approx.. 90-115 Cu.M/Hr.	Please check the requirement as for 2 units BHEL provides 120 Cu.M/Hr and for 1 unit it seems to be on higher side. Moreover Please let us know if this includes the FGD sludge of 20Cu.M/hr furnished elsewhere. We request you to furnish the continuous requirement to be considered in the slurry pump flow sizing. Please also let us know the amount flowing directly to the ash water sump as shown in the flow diagram.	1. ETP Sludge shall be discharged into ash slurry sump @100 m3/hr on intermittent basis. Frequency of same shall be once in day and for 90mins in one stretch. TDS shall be approximately 5000 PPM. 2. ETP TPI Treated Water shall be discharged into Ash Clarifier @50 m3/hr on intermittent basis. Frequency of same shall be twice in day and for in stretch of 1 hrs each. (Oil < 10ppm, TSS < 20ppm). 3. ESP wash waster shall be directly discharged into Ash Clarifier @ 50 m3/hr during ESP wash condition (plant under maintenance) and during floor washing on intermittent basis (twice in day for one hour each). 4. ETP Clarified Water shall be discharged into Ash Water Tank @75 m3/hr on intermittent/provisional basis. (TSS < 15 NTU, Frequency : As and when required) 5. PTP sludge shall be discharged into Ash Slurry Sump @70m3/hr (-/+ 10%) on continuous basis. 6. NDCT Sludge shall be directly discharged into Ash Slurry Sump @ 150 m3/hr during plant shut down.

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2	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 1	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.	1. Kindly confirm the Load of AC / DC / UPS / Aux Power Supply along with Rating and Qty of Feeder Area Wise. Kindly confirm location of BHEL DCS along with RIO Panel. Also confirm requirement & location of AC / DC / UPS / Aux Power Supply etc. Also confirm scope of Special Cable between DCS / RIO Panel etc S.No 2.2 Indicated DCS, VMS, UPS, 24V DC System by BHEL EDN hence confirm the scope of 24VDC System. 2. Service Engineer along with Spare Part required for Free issue items shall be arranged by BHEL.	1. AC, UPS load and 24V DC load applicable to BHEL free supplied equipments shall be shared to successful bidder during detailed engineering by BHEL. Bidder to size the rating of UPS and DC system considering the above load plus any load required for bidder supplied equipments.). Location of BHEL DCS panel will be decided by bidder. No Space will be provided by BHEL in BHEL's scope buildings for placing of AHP DCS panels. BHEL EDN to reply. Successful bidder to coordinate with BHEL EDN during Engineering of DCS, VMS, UPS, 24V DC System. 24VDC System is in the scope of bidder as per Sr no 1 in SCOPE Matrix. 2. Bidder to Refer Annexure-3 Rev01 regarding the Scope related to supply, E&C etc.
3	Volume IV Electrical Works Ch 7: Auxiliary Power Transformers and Ch 12 : Service Transformers	Auxiliary Power Transformers & Service Transformers	Kindly confirm Transformer Impedence, Losses and Level / Type of Transformer.	For Auxiliary Power Transformer - As per technical specification, Auxiliary Power Transformers are of 11/6.9kV voltage level and ONAN type. MVA Rating and Impedance are to be decided by the bidder as per system requirement and technical specification. Bidder to follow technical specification regarding Service Transformer Impedance, Losses and Level/Type of Transformer.
4	-----	-----	Kindly confirm the final no of ash generation/ collection points (i.e. ECO/ ECO Outlet, SCR, APH & Duct etc.) to be considered. The no. of various ash collection points are different in tender flow scheme & specification.	Bidder to follow TCC reagrding no of ash hoppers.

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5	-----	-----	Kindly share the layout drawing, showing the clearcut routing of Ash Slurry disposal pipeline from Ash Slurry Sump upto Ash Dyke.	Bidder to visit the site reagrding existing ash pipe routing. Topography drawing for the Ash Pipe corridor to be considered as guidance for the route. However, final routing shall be discussed during details engg subjected to acceptance from customer/consultant.
6	Plotplan Drawing No.: PE-DG-510-100-M001	-----	As per the Tender Specification: Layout Drawing, Fly Ash Silos are located at 300-350 Mtrs. from ESP Ash hoppers. Having shorter conveying distance, we recommend opting Single Stage Pressure Conveying Distance instead of envisaged Vacuum-cum-Pressure Conveying System. This will result in optimisation in project cost as well as power consumption. So, we request you to kindly accept our proposal.	Tender Conditions Shall Prevail
7	Reply to Technical & Commercial Queries_Corrigendum 5 # AHP Mechanical # Sr. No.: 5	Clause 21.5.6 of Chapter 21 at Sheet 4 of 21 in Vol-III be read as: "Six (6) (3W+3S) transport air compressors (TAC) of suitable capacity with necessary accessories shall be provided for conveying fly ash from the ash vessels (below 5 Vol-III 21 DRY FLY ASH HANDLING SYSTEM performance test. buffer hoppers) to Fly Ash silos. TAC shall be oil free screw compressors and the specification of the screw compressors shall be in line with the compressors	We noted to consider 06 Nos. (03W+03Sb) Transport Air Compressors (of suitable capacity). Please confirm the requirement of Air Drier (as the same are shown in layout drawing, but not envisahed in technical specification). If required, then the type of Air Drier to be considered.	Bidder to follow NIT specification

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		described in Chapter 23 clause 23.6 Vol- III. The capacity and pressure shall be selected as per ash handling requirement. Temperature of 80 deg C of fly ash at silo outlet/ loading end shall be ensured and demonstrated at the time of performance test."		
8	Reply to Technical & Commercial Queries_Corrigendum 5 # AHP Mechanical # Sr. No.: 17	Clarified that 6 fly ash streams shall be considered for conveying ash from ESP hoppers to Buffer hoppers and 3 pressure conveying streams shall be considered for conveying dry fly ash from Buffer hoppers to Fly ash Silos	We understand that all 3 pressure conveying streams (for conveying dry fly ash from Buffer hoppers to Fly ash Silos) will be working and no standby line is envisaged.	Bidder to follow NIT flow diagram regarding no of 2nd stage fly ash lines from FAE tower to fly ash silos.
9	Layout of Roads (Drawing No.: PE-DG-510-603-C002)		We understand that all the main roads shall be constructed by BHEL. Only connecting roads (from main road to various ash handling system facilities) will be in vendor's scope. Accordingly, please mark the same in said Road Layout Drawing for our ease of understanding.	Bidder to develop the access roads to ash handling system facilities. Given road layout is for understanding purpose.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
10	Corrigendum 8 # Clarification (Technical) Clause No.: 25 (Page No.: 19 of 26)	3) For ash slurry disposal from ash slurry pump house to ash pond, as slurry pipes shall be laid on piperack upto plant boundary and on RCC pedestals beyond plant boundary except at road/rqail crossing where pipe culvers shall be provided.	We have visited the site and wish to inform you that: 1) Inside the plant boundary, propsoed routing of the slurry disposal pipeline (along the plant boundary) seems to be congested and practically erection of piperack will be very difficult . So, we recommend to opt the RCC pedestals to lay the slurry disposal pipeline inside the plant boundary. 2) Outside the plant boundary, we found that slurry disposal pipeline are to be laid in the harvesting land. We understand/ presume that the required land for laying the propsoed slurry disposal pipeline is already acquired by M/s DCTPP and accordingly there will be no objection from the villagers during the execution of the work.	1) Bidder to follow specs. 2) Pipes shall be routed above the existing disposal pipe line corridor. The supporting structure for new pipes shall be independently supported on new pedestals from ground. Wherever it is not feasible to route the pipes above the existing pipelines, bidder shall consider routing the pipes adjacent to the existing pipes. Bottom of supporting structure for new pipes shall be kept as 2.0 m from top of existing pipeline. Routing shall be further decided during detailed engineering based on final route survey.
11	Technical Specification for Mill Reject Handling System (Pneumatic Type) Specification No.: PE-TS-510-160-A001 # 5.0 Equipment Design/ Selection Criteria for Mill Reject Handling system (To be read in conjunction with "Customer's specification") # Sr. No.: 7 # Compressors with drive motor and all other accessories	below is envisaged: 2x100% capacity (1 working + 1 Standby) continuous duty Oil free , water cooled , rotary screw type air compressors.	We wish to inform you that for Mill Reject Handling System, Lubricated Screw Type, Water Cooled Type Air Compressors can be adopted as the same is also suited for the application requirement.	Specification requirement is clear. Bidder to provide continuous duty Oil free , water cooled , rotary screw type air compressors.

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12	ANNEX-3 Electrical and C&I Scope Matrix # Sr. No.: 12	List of 6.6KV O/G feeders available to bidder. # a) 6.6KV Motor feeder # a) 22 Nos Location of switchboard : To be decided by Bidder # a) 6.6KV Motor feeder # b) 0 Nos	As per the said clause, M/s BHEL shall provide 22 Nos. 6.6 KV Motor feeders. We understand that these shall be used as: 1) 06 Nos. for TAC 2) 09 Nos. for Slurry Disposal Pumps 3) 02 Nos. for BA HP Water Pumps 4) 02 Nos. FA Water Pumps 5) 02 Nos. for IAC	These are the maximum number of 6.6 KV Outgoing Motor feeders provided in BHEL supplied 6.6 KV HT Switchgear. Any additional requirement shall be supplied by bidder as per bidder design requirement without any commercial implication to BHEL.
13	ANNEX-3 Electrical and C&I Scope Matrix # Sr. No.: 13	BHEL free issue HT motors available to bidder # 6.6KV Motor # 16 Nos	As per the said clause, M/s BHEL will free issue 16 Nos. 6.6 KV Motore. As per SLD, 6.6 KV Motors are defined as BA HP Water Pumps: 02 Nos., Slurry Disposal Pumps: 09 Nos. & IAC: 02 Nos. In this regard, please confirm the application of these 6.6 KV Motors.	BHEL free issue HT motors are for Water and Slurry Pump application only. HT motor for any other applications is in bidders scope.

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14	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 1	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.	Kindly confirm 100KVA for each Transformer i.e. I/C-1 and I/C-2 OR 50KVA on each Transformer i.e. I/C-1 and I/C-2. Also confirm 100KVA on each Transformer is Working Load. Also confirm this load is applicable for all 8Nos Transformer or 6Nos 11/0.433KVA Transformer. Kindly confirm Location of Bottom Ash MCC. Same shall be Power Up from 415V Ash Water PMCC.	Load of 100KVA for each MCC shall be considered 11/0.433 transformer sizing. Location of MCC to be decided by bidder. For Power distribution follow Customer Main Single Line Diagram.
15	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 2	Connection between oil retention pit (Bidders scope of Transformer) to common oil retention pit located in main plant area is in bidders scope.	Oil Type Transformer is applicable for 11/6.6KV - 02Nos Only. Please confirm the location and Route in the Layout drawings. Also confirm Oil Transfer Pump is required. If required, kindly confirm the Qty.	Type of transformer & Oil transfer pump : Bidder to follow specification . Location and routing to be decided by Bidder.
16	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 7	Roof Top Solar System	Kindly confirm Roof Top Solar System is required for which Buildings. As per Layout various Building in Bidder Scope of Supply. Also confirm the Make for costing.	Roof Top Solar Panel as indicated in Annexure-2 shall be confined only to the buildings which are part of the AHP Package which is part of the scope of this package.

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17	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 8 & 9	CCVM System & PA System	Kindly confirm the Load of AC / DC / UPS / Aux Power Supply along with Rating and Qty of Feeder Area Wise. Kindly confirm location of CCVM System & PA System. Also confirm requirement & location of AC / DC / UPS / Aux Power Supply etc. Service Engineer along with Spare Part required for Free issue items shall be arranged by BHEL for O&M.	AC, UPS load and 24V DC load applicable to BHEL free supplied equipments shall be shared to successful bidder during detailed engineering by BHEL. Bidder to size the rating of UPS and DC system considering the above load plus any load required for bidder supplied equipments.) Bidder to Refer Annexure-3 Rev01 regarding the Scope related to supply, E&C etc.
18	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX		Kindly confirm any requirement of Emergency Diesel Generator / Emergency Power Supply / DG Set / Fire Fighting and FDA system etc in Bidder Scope of Supply.	Emergency Diesel Generator /Emergency Power Supply/ DG Set if required in line with the NIT specifications of Customer, Ammendments and Clarifications for successful commissioing of the FDA system limited to the AHP Package is in the scope of bidder.
19	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 1	Bidder shall provide the Illumination, Earthing, Lightning protection for all areas where Civil & structural is in bidder scope.	No lighting has been considered under our scope for pipe racks, existing building / Silos, roads, any outdoor area etc. Any high mast lighting also is not considered under our scope of supply. Building Periphery lighting shall be done by mounting the light from the building / Buffer Hopper Top & Bottom / Fly Ash Silo Top & Bottom itself.	Bidder to follow specification
20	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 2 & Volume IV Electrical	CABLE TRAYS	Kindly confirm requirement of FRP Cable Tray. We have consider hot dip galvanized cable tray.	Bidder to follow specification

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
	Works Ch1: Electrical Scope of Work Sheet 45 & 46 of 58 (1.36.00)			
21	Plot Plan	Location of Silo Utility Building	Location of Silo Utility Building Far away from New Silo hence please provide location of Silo Utility Building Near the Silos in the Plot Plan.	Bidder to follow NIT specification and its annexures.
22	ANNEX-16 Mandatory Spare for AHP and MRHS	Mandatory Spare	Mandatory Spare for BHEL Free Issue Items shall be arranged by BHEL. Mandatory Spare indicated in various section of Electrical and C&I Specification (Volume IV & Volume V) shall not be considered by us. We have considered mandatory spare as per mandatory spare ANNEX-16 Mandatory Spare for AHP and MRHS and those are applicable only. Any item indicated in the list however same is not applicable or not in our scope, we will not be considered the same.	Noted. Not acceptable. Bidder to follow specifications. All the applicable Electrical and C&I mandatory spares as per the specifications for bidder supplied equipment shall be considered. Bidder to follow specifications.

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23	ANNEX-2, ELECTRICAL SCOPE BETWEEN BHEL AND VENDOR : MILL REJECT SYSTEM, REV-00, DATE 20.01.25		1. 230VAC & 415VAC Power Supply required for Mill Reject Handling System shall be provided by BHEL. 2. Kindly confirm location of DCS. Complete MRHS Shall be operated from BHEL DCS. We will not be considered any UPS / 24VDC etc system in our scope of supply for MRHS. 3. Kindly confirm the location & Size of Control Room so that we could considered Lighting as per S.No 8. 4. Since DCS / UPS / 24VDC etc under BHEL scope hence we will not be considered any Electronic Earthing under our scope of supply. 5. Lightning Protection of Bunker is not required because same is MS.	1) Refer ANNEX-2, ELECTRICAL SCOPE BETWEEN BHEL AND VENDOR, Sl. No. (1), Remarks column, Point No. (a) to be read as : <i>" a) Only 415V AC (3 Phase, 3 Wire) supply shall be provided by BHEL as per load data provided by Vendor at contract stage for all equipment supplied by vendor as part of contract. BHEL will not provide any single phase 240V AC supply feeder as 415V LT Supply system is 3 Phase 3 Wire. Any single phase, 240V AC power supply requirement shall be derived by Vendor by using 415V/ 240V control transformer."</i> Further, ANNEX-2, ELECTRICAL SCOPE BETWEEN BHEL AND VENDOR, Sl. No. (1), Details Column to be read as below : <i>"415V MCC/ 3.3kV (If applicable)" to be read as "415V MCC/ 6.6kV (If applicable)"</i> 2) MRS DCS panels shall be located in Main CCR. Further, as per scope matrix point no.1.b), 230 V AC UPS Power supply shall be provided by BHEL at a single point, All necessary hardware for deriving other power supply from given feeder shall be in bidder's scope. 3) MRS shall be controlled from main CCR. There is no separate control room envisaged for MRS. Accordingly, there will be no lighting for control room. 4) Electronic earthing of BHEL panels like DCS are in BHEL scope. However, electronic earthing of panels in bidder's scope, if any, shall be in bidder's scope only. 5) Noted.

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24	Volume V, Instrumentation & Control Works, Part B/Ch 14: Annexure-A Control System for BOP/Offsite Packages Sheet 3 of 12, Mill reject handling system, S.No 7	Main Plant DDCMIS Control scope Local Control Panels with One (1) no. 15" TFT based touch screen (GIU) panel and Pneumatic panels with Hardwired interface with DDCMIS shall also be provided by bidder. The control & operation of Compressed air system for Mill Reject handling system shall be from main plant DDCMIS apart from its local Control Panels. Interfacing (Hardwired & soft link) of compressed air system's control panel and field instruments with DDCMIS shall be same as specified for main plant compressor air system in Vol. V, Part A.	Kindly confirm location of One (1) no. 15" TFT based touch screen (GIU) panel. This shall be interface with BHEL DDCMIS. Also confirm this 15" TFT based touch screen (GIU) is used for MRHS and Compressors.	The GIU shall be part of local control panel for Mill Reject System.
25	Volume V, Instrumentation & Control Works, Part B/Ch 15: Environment Monitoring Systems	Flow Diagram- Bottom Ash Handling System Drg No 111-13-5201 Flow Diagram- Coarse Ash Handling System Drg No 111-13-5202 Flow Diagram- Fly Ash Handling System Drg No 111-13-5203 Flow Diagram- Ash Slurry & Water System Drg No 111-13-5204	We have consider Instrument indicated in the Flow Diagram only.	Bidder to follow specification

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26	Volume V, Instrumentation & Control Works, Part B/Ch 14: Annexure-A Control System for BOP/Offsite Packages Sheet 3 of 12, Compressed Air System and Air Drying Plant, S.No 6	Microprocessor based control System for individual compressor and main plant DDCMIS shall be provided for overall monitoring, control & operation, loading, Unloading & auto standby start of compressors, Dryers, control valves, Solenoid valves, Field instruments etc. Each Compressor's Winding temp RTD signals, Bearing temp RTD signals and VMS signals shall be hardwired to Microprocessor based control System and DDCMIS directly from field/VMS panel. DDCMIS shall have redundant soft interfacing (not in daisy serial link) with each individual compressor's microprocessor based control system, and HW signals required for command, status, local/remote operation, interlock & protection of complete compressor package. In Plant Compressor House – Remote I/O unit with redundant micro processor/controller of DDCMIS family is to be employed with one no. OWS & one no. A4 sized coloured LJP. Through redundant fiber optic cable, the bus is to be connected to DDCMIS of Central Control Room.	Compressor shall be interface with DDCMIS thru Gateway. Maximum 5 Number compressors shall be connected to each Gateway in Digi Chain as per compressor manufacturere standard. VMS is not applicable for Compressors including Motor because both are Skid Mounting. Link between DDCMIS and Gateway shall be non redundant as per compressor manufacturere standard. Compressor Controller shall be non redundant as per compressor manufacturere standard.	Bidder to follow specification

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27	Technical Conditions of Contract (TCC), Chapter - III: Scope of Work, Clause No. 3.35, Page 26 of 90	Bidder to refer SUB- VENDORS LIST from Customer NIT Specifications.-----	Sub-Vendor List not provide in Specification, please provide us the List of Sub-Vendor to be considered for the proposed system	It shall be finalized during engineering stage subjected to approval from customer/consultant where sub-vendor list is not available in the NIT spec.
28	Plotplan Drawing No.: PE-DG-510-100-M001		As per the Tender Specification: Layout Drawing, Fly Ash Silos are located at 300-350 Mtrs. from ESP Ash hoppers. Having shorter conveying distance, we recommend opting Single Stage Pressure Conveying Distance instead of envisaged Vacuum-cum-Pressure Conveying System. This will result in optimisation in project cost as well as power consumption. So, we request you to kindly accept our proposal.	Tender Conditions Shall Prevail
29	Main Single Line Diagram, Drg No 112-10-100, Rev01 (2 Sheet)	415V Ash Water PMCC & 415V BAH MCC	Kindly confirm location of 415V Ash Water PMCC & 415V BAH MCC along with Transformer 11/0.415KV for Feeding Power Supply to 415V Ash Water PMCC. Same is missing the Plot Plan Drg No PE-DG-510-100-M001, Sheet 1 of 1, Rev 2P.	Bidder to decide the location of PMCC & MCC .
30	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX # Sr. No.: 10 & 11	2 No of 11KV uncabled Feeder available at 3.5 Meter MV Switchgear room of Power house building.	Kindly allow us to lay 11KV Cable along with Intertripping cable in BHEL PEM Cable Tray from 3.5 Meter MV Switchgear room of Power house building To ER-1 (AHP MCC-1, Slurry, Compressor) Serial Number 50 of lot Plan Drg No PE-DG-510-100-M001, Sheet 1 of 1, Rev 2P. Also confirm the Maximum MVA available is 10 MVA or 16MVA.	Annexure-3 Electrical Scope Matrix, Sl. No. 10 remarks column clearly indicates the scope and terminal point of cabling system from 3.5 Meter MV Switchgear room of Power house building to AHP switchgear room. Bidder to refer the same. Maximum MVA available is 10 MVA as mentioned at Sl. No. 10.

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31	ER-1 (AHP MCC-1, Slurry, Compressor) and Plot Plan Drg No PE-DG-510-100-M001, Sheet 1 of 1, Rev 2P	Location of DCS Room and Cable Celler	We understand that DCS Room for Complete Control of AHP along with HT / LT Switchgear etc shall be located in Ground Floor hence We will not be considered any Cable Celler / double story building.	Bidder to follow specification
32	Sr. 8, Page No 51 of 214 Clarification	1. Distance of farthest existing ash dyke is 7 KM. 2.Maximum ash slurry disposal distance shall be 8 KM including garlanding on the periphery of the dyke.	Please reconfirm the Maximum length to be taken for Selecting number of pumps in series.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
33	Sr. 521, Page No 52 of 193 Clarification	For selecting no. of pumps in series for Ash disposal pumps, total length of 7KM including garlanding and 15M static rise shall be considered.		
34	Volume III, Ash Handling System, CH21 Sheet 20 of 21	Clause 29 (Pipe work): MOC of Pipe with thickness from buffer hopper to New RCC Silo's	Using CI Pipe will increase the Maintenance issues in future due to Couplings. Further apart from CI, MS is also acceptable to NTPC. Request you to Please confirm that we can use MS ERW pipes as well for conveying of Fly Ash from Buffer Hopper to New RCC Silo's.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
35	Volume III, Ash Handling System, CH21 Sheet 14 of 21	Clause 7.0 (Fly Ash Extraction Valve): Type & Method of operation - Slide plate type; Air Electric operated	Type of Ash Intake Valve / Ash Extraction valve should be in pervue of the System supplier. Kindly allow The Ash Intake / Extraction valve in line with system manufacturer Philosophy.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL

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36	Sr. 5, Page No 52 of 193 Clarification	"Six (6) (3W+3S) TAC shall be provided for conveying fly ash from the ash vessels (below buffer hoppers) to Fly Ash silos.	Earlier 4W+2SB were envisaged when there were four ash pipelines to convey. Subsequently, the ash conveying lines were reduced to 3 from buffer hopper to fly ash silo's. Keeping the same in view, 3W+2SB are also sufficient for the system safety. Please confirm.	Bidder to follow NIT specification & subsequent clarification from HPGCL for no. of TACs as 6 (3W+3S) and Bidder to follow NIT flow diagram regarding no of 2nd stage fly ash lines from FAE tower to fly ash silos.
37	Volume III, Compressed Air System, CH23 Sheet 8 of 24	Clause 23.5.2: Three (3) (2W+1S), oil free, dry screw type, water cooled, horizontal multistage rotary screw compressors for Service Air.	We assume that Air Driers (HOC Type) are not required for the Service Air System. Please confirm.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
38		Mandatory Spares for Fire Detection & Protection System	Please reconfirm wheter the Items indicated in the mandatory spares are to be included in our scope keeping in view the limited scope of the Fire fighting systehm in AHP Scope.	The Mandatory Spares related to the FDA System supplied for the systems and facilities covered under the scope of this package shall be in the scope of the bidder.
39	Sr. 31, Page No 54 of 214 Clarification	Trolley mounted vaccum pump of 5TPH capacity shall be provided to unload excess flyash from one closed tanker to another tanker.	We assume the same is not in our scope of supply. Please confirm.	Bidder's assumption is not correct. This is in the scope of pacakge tender.
40	Volume III, Weigh Bridge, CH31 Sheet 4 of 4	Pitless - Min 5T & Max 100T Weigh Bridge	Please confime the Capacity & Type of Weighh Bridge to be provided.	It is 100 T weighbridge. Further, Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL

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41	Volume III, Compressed Air System, CH23 Sheet 17 of 24	Clause 2.3 - Transport Air Compressors	Compressed air compressors needed to be two stage compressors as per spec. However, the fly ash conveying compressors requirement may or may not have the requirement of two stage compressor. Hence revised Spec for Conveing air compressor for fly Ash may kindly be provided or restriction on single stage or two stage Compressors may kindly be deleted. Also please confirm wether the Mandatory spares of TAC shall also apply for Instrument air, Plant Air & SService air compressors.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
42	PE-DG-510-100-M00-1 Rev 2P	Layout	We assume that Switchgear & Control Room of Ash Handling system is to be located behinde slurry pump house. Please confirm.	Bidder to decide the same.
43	Sr. 39, Page No 55 of 214 Clarification	SCR hoppers which is having high ash temperature	We assume SCR is not in scope of this package, hence the same is not applicable to us. Please confirm. If Its Ash is to be transported, please share the Hopper layout & elevation along with mode of transportation.	Bidder to follow TCC reagrding no of ash hoppers.
44	Sr. 48, Page No 56 of 214 Clarification	BA slurry transportation pump is not applicable for this tender	We assume that BA Slurry here means Coase Ash Slurry Pump. Also Please confirm the Type of coupling applicable for Coarse Ash Pump.	HPGCL's clarification is clear. Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
45	Sr. 61, Page No 58 of 214 Clarification	for construction of 2 nos. RCC fly ash silos, weigh bridge and control rooms etc. are to be provided	Please clarify the location of proposed Pitless Weight bridge for the new silo's.	Refer Plot plan. Further Bidder can decide the location of weighbridge within fly ash silo complex which shall be discussed with customer for their acceptance.
46	Sr. 62, Page No 58 of 214 Clarification	Chapter 5, Vol-III, Clause 5.2.1 (f) - Two(2) clarifloculators	As per layout, there is 1 Clarifier adjoining Ash Water Tank. We will be supplying 1 Clarifloculator with associated sysytem. Please confirm.	Confirmed regarding 1 no. clarifier. Further, Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
47	BJAK/TK/BHEL-28/2024	Topography & Countour Survey drawing.	Please Confirm whether this drawing includes the Ash Dyke location as the	Water / ASS Logging Area shown in topograpgy drawing is lagoons of ash dyke.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
			nomenclature of water body says Water / ASS Logging Area.	
48	Sr. 525, Page No 52 of 193 Clarification	Coupling	We understand the 1st Stage of Ash Slurry Pump is through Fluid Couplg & rest in series shall be belt driven. Similarly, Coarse Ash Pumps will be Direct Coupled. Please clarify whether BAOF pump is also to be direct coupled or through Fluid Coupling.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
49	Sr. 1339, Page No 143 of 193 Clarification	Type of Clarifier	Please confirm whether we have to supply Reactor type Clarifier or Clarifloculator Type Clarifier.	Bidder to refer NIT specification, its annexures regarding complete scope of AHP clarifier. Details are specified in AHP chapter (Ch-21), WTP (Ch-5), ETP (Ch-11), clarification document HPGCL corrigendum 5 & 8 (HPGCL replies to Pre-bid queries) for the clarification on type/scope of clarifier
50	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 1 Page 1 of 2:	REMARKS 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	1) Please confirm scope matrix for 11/6.9kV Transformers 2) Please confirm scope matrix for 6.6kV Bus Duct. 3) Bidder understand that 11/0.433kV Service Transformer is in Bidder's Scope, it shall be Dry Type Transformer, Please confirm scope. 4) Please confirm Scope Matrix for LV Bus ducts (415V).	Specification is clear on the scope. Bidder to follow specification.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
51	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 1 Page 1 of 2:	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.	Bidder understanding is that switchgears (BHEL Free issued and Bidders LT switchgear) shall communicate to AHP DCS and AHP DCS shall communicate to Central control room at TG Building for data communication, please confirm.	Bidder understanding is not correct. Bidder to follow specification.
52	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 1 Page 1 of 2:	Bidder shall provide the Illumination, Earthing, Lightning protection for all areas where Civil & structural is in bidder scope.	Please confirm bidder's understanding is correct as- following area are in bidders scope of area for Illumination- 15) AHP Comp. House 18) Ash water Pump House 47) AHP Chemical House 48) AHP Weigh Bridge 49) AHP Wash water Pump Shed 50) ER-1 (AHP MCC-1, SLURRY, COMPH) 51) ER-2 (AHP MCC-2, SILO) --> Ash Slurry Sump House --> FA Buffer Hoppers However following area not in bidders scope as these structures are by other package vendors, only few equipments/instruments are in bidder scope --> ESP Bottom --> Boiler area --> or any other area	Specification is clear on the scope. Bidder to follow specification.
53	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 2 Page 1 of 2:	Connection between oil retention pit(Bidders scope of Transformer) to common oil retention pit located in main plant area is in bidders scope.	Bidder understanding is that, al bidder scope of transformers (11/0.433kV) are Dry type transformer, hence oil retention pit connection is not in bidder's scope	Specification is clear on the scope. Bidder to follow specification.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
54	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 4 Page 1 of 2:	The supply of consumables and lubrication for BHEL free issue HT motors is included in the bidder's scope.	Bidder understanding is that any kind of Consumable and Lubricants, Foundation bolts, for free issued motors shall be as per Motor standards, hence it shall be supplied by Motor OEM and shall be out of bidder's scope, please confirm	Bidder to follow NIT specification.
55	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 7 Page 1 of 2:	Roof Top Solar Panel: 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.	It is but prudent that in case the BHEL want's us to install same make panel as supplied by BHEL in Main pLant, It should indicate the price of the panel & associated accessories of the solar panel to be included by Bidder in the pre-bidding stage for even playing for all bidders. Alternatively, BHEL can excluded Roof Top Solar Panel from bidders scope and order it with main plant solar package. Please confirm.	Tender Conditions Shall prevail.
56	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 14 Page 2 of 2:	ESP hopper High & Low level switches and wiring up to ESP MCC are excluded from bidder scope. However, Cable & Cabling from ESP MCC to AHP DCS is in the scope of bidder. IO's for the above shall be considered by bidder in IO list and all the associated cabling.	Please confirm 1) these signal from ESP MCC to AHP DCS will be Hardwired via Multicore cables or Soft communication over fiber optic cable	Annexure-3 Rev01 may be referred attached along with this corrigendum
57	Annexure-3 (Electrical, Control & Instrumentation Scope Matrix) Sr. 15 Page 2 of 2:	Level switches for Economizer / APH hoppers/ Duct Hopper are excluded from bidder scope.	Please confirm 1) Location of system, where these Signals will terminate. 2) Signal from above system to AHP DCS will be Hardwired via Multicore cables or Soft communication over fiber optic cable	Annexure-3 Rev01 may be referred attached along with this corrigendum

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
58	Volume III, Ash Handling System, CH21 Sheet 11 of 21	Clause 21.13: Ash Clarifier:Needed chemical dosing system shall be provided.	Bidder understanding is that the type of chemical dosing system required for Clarifiers is in the perview of the Bidder. However, Please confirm the number of working & standby system in Chemical House. Request you to please share the Flow diagram for the Clarifier system for clarity.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
59	Volume III, Ash Handling System, CH21 Sheet 4 of 21	Clause 21.5.3:Temperature of 80°C of fly ash at silo outlet/loading end shall be ensured and demonstrated at the time of performance test.	In case the Silo is full & there are no takers of Ash from silo for more than 24 hrs. Temperature will reduce at the loading end and the said condition of specification will not be able to meet by Contractor. Please advice.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
60	Volume III, Compressed Air System, CH23 Sheet 19 of 24	Clause 5: DM COOLING WATER DATAShall not be less than the shut off head of DMCW pump.	Pls confirm the Terminal Point Pressure & Temperature of DMCW Supply & Return. Apart from Compressors, Please confirm any other equipment requirement of DMCW. Location of DMCW Supply & Return may kindly be indicated.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
61	Plot Plan PE-DG-510-100-M001 Rev 2P	Building 50:	Bidder's understanding is that AHP Control Room & Electrical Building is housed in Building 50 adjoining the Ash Slurry Pump House. Civil & Strurural for Transformer, Control Room, DCS Panel and Battery room is also in bidder's scope.	Specification is clear on the scope. Bidder to follow specification. Civil, Structural & Architectural works are in Bidder's scope.
62	Plot Plan PE-DG-510-100-M001 Rev 2P	Building 15:	Bidder's understanding is that AHP Compressor House All Electrical & Control shall be from Building No 50. Please Confirm.	Bidder to decide the same.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
63	Plot Plan PE-DG-510-100-M001 Rev 2P	Building 22:	Please confirm whether the Civil & Strutral work regarding Plant Air Compressor House is also in scope of bidder. You are also requested to kindly Please confir whether the scope of RCC Room, I/O Room, Transfoemrr space with gate is In BHEL's scope.	Nos. of buildings/structures required for AHP to be assessed by the bidder. Civil, Structural & Arch. Works for the AHP strucutres/buildings are in biddder's scope. I/O room , transformer space for Building no 22 is not pertaining to AHP package.
64	Volume VI, Civil, Structural & Architectural Works, CH15 AHP Sheet 1 of 2	Clause 15.2: iii) Vaccum Pump house. iv) Complete Ash Water recirculation systems. v) Ash conveying Blower room. vi) MCC Room / Control room.	Bidder's understanding is as follows: Vacuum Pumps (iii) , TAC Compressors (instead of blowers-v) shall be housed in AHP Comproser Building No 15. MCC/ Control room (vi) for AHS shall be housed in Bbuilding No 50. Ash Water Recirculation System (iv) is not in our scope and hence its building or related Civil & strutral work is not in our scope.	Bidder to follow NIT specification.
65	Volume VI, Civil, Structural & Architectural Works, CH15 AHP Sheet 1 of 2	Clause 15.2: viii) RCC paving in Silo area	Bidder's understanding is as follows: Silo area is already paved. Bidder shall only rectify area where he has to construct the New Silo's, Weigh Bridge & Shed for Wash Water Pumps.	Bidder's understanding is correct. Damaged area during erection and construction works shall be rectified by the bidder.
66	Volume VI, Weigh Bridge, CH31 Sheet 2 of 4	Clause 31.1: The scope shall include supply of 2 PCs, printer, UPS with 2 hour backup, software capableshall also be included in the scope	Please confirm whether we can house the Printer, Ups in separate enclsousure of Wash Water Shed.	Shall be housed in Weigh Bridge Control room.
67	Annexure-2, Mechanical Scope	Sr. No 4, Fire Fighting for AHP:	The Fire Protection System including the FDA and Spray System for the AHP area (i.e. Building 22, 15, 50, 18 & 47) is considered in our scope.	Bidder to refer Annexure-2 for Scope clarity.
68	Annexure-2, Mechanical Scope	Sr. No 8, Road & drains	Bidder's understanding is that only approach roads & onnecting Drains from AHP Building to main roads Drains are in its scope.	Bidder's understanding is correct.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
69	Annexure-2, Mechanical Scope	Sr. No 9, Sewage System	AHP facilities are remotely located and scattered in overall plant layout. It is difficult to provide and connect sewerage network for all AHP facilities with common Collection/Lifting pits. Bidder proposes to provide Individual Septic Tanks for mentioned AHP facilities. Please confirm.	Bidder's proposal is not acceptable. Drawing for Tentative locations of sump pit is attached as Annexure-SW for guidance only. Bidder to assess accordingly.
70	Plot Plan PE-DG-510-100-M001 Rev 2P	Building 28:	As per Chapter 29 (Elevators), there is non provision of elevators in Fly Ash Silo Area. However an elevators is indicated in the Plot Plan in the said area. Please confirm whether Elevator is to be provided in Fly Ash Silo Area.	Please refer Elevator chapter Ch-29 for the requirement of elevators
71	MRHS Scope of work	Clause 2 (on page 6 of 74) - Exclusion	Bidder's understanding is that Civil Work is excluded from its scope.	Bidder to Refer Exclusions Chapter as part of TCC.
72	MRHS Equipment Data	Clause 1 (n) (on page 8 of 74) - Pyrite Hopper - Grid	Grid shall be provided as per OEM recommendation. Please confirm.	Noted. However, sizing grid shall be of 40MMX40MM or better.
73	Volume III, System capacities, CH21 Sheet 8 of 21	Density of BA for Volume Calculation: 850Kg/M3	Please re-conform that Density of BA for Volume calculation is 850 as provided in spec instead of 650	Bidder to follow NIT specification
74	Voulme ID, Forms & Procedures	F-11	Please explain the utility of this format & how to fill the details.	Tender Condition shall prevail
75	Voulme ID, Forms & Procedures	F-22 & F-23	Please confirm whether we can submit Insurance Surety Bonds instead of BG for subject forms.	Refer GCC. Tender Condition shall prevail.
76			Please confirm that Air Conditioning & Ventilation system are not in the scope of the bidder.	It is included in bidder's scope. Bidder to follow NIT specification.
77	FD 111-12-5201 R0	Eco Outlet Duct Hopper	Eco outlet Duct Hopper (3+3) are not indicated in the flow diagram. Kindly confirm whether they are to be included in BAH Capacity or we need to provide feeder ejector system for them and take its slurry to coarse ash tank.	Bidder to follow TCC regarding no of ash hoppers.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
78		BAOF Pump	We assume that the indicated BAOF Pumps are Horizontal Centrifugal as indicated in CLAUSE 20 OF CH21-AHS instead of Vertical indicated in Flow Diagram.	Bidder to refer clarification document HPGCL corrigendum 5 (HPGCL replies to Pre-bid queries) where type of bottom ash overflow tank and pump are clarified.
79	FD 111-12-5202 R2	APH Hoppers & Duct Hoppers	Flow Diagram depicts the qty as 4 for APH Hoppers & 4 for Duct Hoppers. The same are indicated as 4+4 for APH & 4+4 for Duct Hoppers in BHEL TCC Page 22 of 90. Please share the relevant layout of Hoppers to ascertain the piping layout & how the equipment can be accommodated under those hoppers.	Bidder to follow TCC regarding no of ash hoppers.
80	FD 111-12-5203 R1	ESP Fluidising Blower	Please confirm that fluidising of Buffer Hopper are also to be included in the capacity of ESP hopper or we need to provide separate fluidising blower for Buffer Hopper fluidising.	Bidder to follow NIT specification and its annexures.
81		ESP Hoppers	Flow Diagram depicts the qty as 160 (16x10). Whereas the BHEL TCC indicates the same as 120 (12x10). We assume the same as 120 Hoppers per unit. further Mechanical Exhausters are indicated as 16 in Flow Diagram as 4+4 for APH & 4+4 for Duct Hoppers in BHEL TCC Page 22 of 90. Please share the relevant layout of Hoppers to ascertain the piping layout & how the equipment	Bidder to follow TCC regarding no of ash hoppers.
82		Mechanical Exhausters / Vacuum Pumps	Mechanical Exhausters are indicated as 16 in Flow Diagram. Considering ESP hoppers as 120 Numbers, we assume the Vacuum Pumps shall be 6W+6SB for each Unit.	Bidder to refer clarification document HPGCL corrigendum 5 (HPGCL replies to Pre-bid queries) where no. of vacuum pump is clarified.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
83	FD 111-12-5204 R1	Clarifier sludge	We assume that the Clarifier sludge is to be discharged in Ash Slurry Sump instead of as indicated in Ash Water sump.	Bidder to refer clarification document HPGCL corrigendum 5 (HPGCL replies to Pre-bid queries)
84	Volume III, System capacities, CH21 Sheet 11 of 21	Clarifier	Please confirm that type of Clarifier to be included in bidder's scope of work is reactor type. Also please confirm that apart from ash laded water from BAOF pumps & drain pump from vacuum pump area , no other ash laden water is to be treated in the Clarifier.	Bidder to refer NIT specification, its annexures regarding complete scope of AHP clarifier. Details are specified in AHP chapter (Ch-21), WTP (Ch-5),ETP (Ch-11), clarification document HPGCL corrigendum 5 & 8 (HPGCL replies to Pre-bid queries) for the clarification on type/scope of clarifier.
85	Volume II, General & Schedules, CH9 Sheet 47 of 103	Clause 22.b (Air Washer - Nozzles - 1 set	In Annexure-16P Mandatory Spares of AHP - Nozzles are indicated as 2 sets. Kindly Confirm whether Tender requirement is 1 set or two set.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
86	Mandatory Spares Annexure-16 AHP - Clause 15(TAC) Page 39 of 95	Transport Air Compressors	Mandatory Spare list seems not matching to one another. Please confirm.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
87	Mandatory Spares Annexure-16 AHP - Cell No 1964 (TAC) Page 52 of 95.	Oil Free Screw Compressor		
88	Volume III, System capacities, CH21 Sheet 5 of 21	Clause 21.7.4 Ash Dyke is 7Km	Clarification 11, AHP Mechanical : Maximum disposal distance shall be 8 km including garlanding. Please confirm whether we need to take 8000 meter in slurry pump head calculation or Please confirm maximum length to be taken for Pump Head Calculation. Total Garlanding length is never taken for calculation purpose.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
89	Plot Plan	DWG-111-29-0200 R3 & PE-DG-510-100 R2P	In both there Plot Plans the pipe route is not clearly indicated. Please share the pipe route from slurry pump house to ash dyke to check for bends and culverts.	Bidder to follow NIT specification & annexures
90	Volume III, System capacities, CH21 Sheet 8 of 21	Clause 21.10.5	BA Overflow pumps, Coarse ash pumps and Ash disposal pumps shall have 10% margin over pipe frictional losses: We assume that no Margin is to be taken over the capacity of BAOF , Coarse Ash & Ash Disposal Pumps. Please confirm.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
91	Volume III, System capacities, CH23	Compressed Air System	Please confirm that Compressed Air System is in our scope of supply or not.	Bidder to follow NIT specification
92			We understand that Ash Slurry pipe from Ash Slurry Sump is to be laid on piperack upto Plant Boundary & on pedestals till Dyke except on road / rail crossing where the same has to be on pipe culvert. Please allow BA pipe from ba Hopper to be routed on over ground pedestal till ash slurry sump instead of trenches / Slurry from FAE Tower.	Bidder to follow NIT specification & subsequent clarifications/amendments from HPGCL
93	Volume III, Mechanical Works, CH21	F. Blowers are located at silo operating floor	Please clarify the location of the New RIO Rack & MCC for New Silo's. Whether the same are to be controlled from existing Silo Utility Building.	Bidder to decide the same. Bidder to follow specifications for control of New Silo's.
94	Contour Drawing		We request you to provide the contour drawing of plant including Ash Dyke for working.	Topography and contour drawing for Ash pipe line route is already provided along with tender drawings. Bidder to visit the site and collect data for further details.
95	General		During the site visit it was noted that in the pipe rack routing inside the plant, several trees, bushes, etc. are there. Please confirm that Tree and bush cutting is in BHEL scope.	Tree cutting is in Bidder's scope. Also, bidder to take mandatory permission from statutory authorities including MOEF, forest department etc. for tree cutting.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
96	General		During the site visit it was noted that the disposal lines to be routed outside the plant will cross the village and access to the pipelines is blocked due to farmers fields on both sides. Please confirm that the right of way will be provided to us for laying the pipes and construction of pipe pedestals by BHEL. Moreover, no service road was found along this portion of line which is passing through the village and its fields.	Pipes shall be routed above the existing disposal pipe line corridor. The supporting structure for new pipes shall be independently supported on new pedestals from ground. Wherever it is not feasible to route the pipes above the existing pipelines, bidder shall consider routing the pipes adjacent to the existing pipes. Bottom of supporting structure for new pipes shall be kept as 2.0 m from top of existing pipeline. Routing shall be further decided during detailed engineering based on final route survey.
97	General	Road crossing	It was noted that there is a main road in the route near Ishwarpur entry road. The existing pipes are crossing this road using road culvert. Please let us know if this road is to be crossed using culvert or pipe bridge. Moreover, beyond this road the existing pipes are routed with mud road on one side and a water drain on the other. Please confirm that the new disposal pipelines will be run adjacent to the existing pipes on the mud road. Please note that on the crossing there is a sign board which says "No Thorough Fare Trespassers shall be prosecuted. Please confirm that this road belongs to the owner and the new pipes will be routed along this road.	At road crossings outside plant boundary shall be in culverts or pipe bridges. Pipes shall be routed above the existing disposal pipe line corridor. The supporting structure for new pipes shall be independently supported on new pedestals from ground. Wherever it is not feasible to route the pipes above the existing pipelines, bidder shall consider routing the pipes adjacent to the existing pipes. Bottom of supporting structure for new pipes shall be kept as 2.0 m from top of existing pipeline. Routing shall be further decided during detailed engineering based on final route survey.
98	General		Soil investigation report of the area outside plant boundary along the Ash Pipe routing/corridor is required. Further BHEL to confirm that no special foundation system is required in water logging area outside Plant boundary.	Soil investigation report already shared with tender documents, for additional information bidder to visit the site and collect the data. Bidder to consider the foundation system as per soil condition.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
99	General		During the site visit it was noted that 4 No. existing Ash Slurry pipelines have been routed through 2 No. big size MS pipes to cross the road adjacent to plant boundary. BHEL to confirm, if same big size MS pipes can be used to route 3 Nos. proposed Ash Slurry disposal pipes.	Bidder to follow NIT specification. Further it shall be discussed/decided during detailed engineering subjected to acceptance from customer/consultant.
100	Clause 7.13.1 of TCC	Retention amount of 5% of Contract Value	As per the tender provisions, BHEL will be withholding 10% of the supply value from the invoices in addition to 5% Bank Guarantee submitted towards Contract Performance submitted by contractor. This effectively results in a total security of 15% available with BHEL. We kindly request BHEL to consider waiving the additional 5% retention requirement as per clause 7.13.1 of TCC, as the cumulative security amounting to 20% is disproportionately high and imposes a financial burden.	Tender Conditions Shall Prevail.
101	Clause 8.1 of TCC	Liquidated Damages @7.5%	We kindly request BHEL to consider revising the Liquidated Damages (LD) terms by either capping the LD at 5% of the total contract value (in place of the current 7.5%). We believe this revision will ensure a balanced risk allocation aligned with standard industry practices.	Tender Conditions Shall Prevail.
102	Clause 8.2.3 of TCC	Contractor's Aggregate Liability for delay in completion and shortfall in guaranteed performance parameters	We request BHEL to kindly cap the cumulative liability arising from delay and shortfall in performance at 10% of the total contract price . This will ensure a fair and balanced allocation of risks between the parties and is in line with standard industry practices.	Tender Conditions Shall Prevail.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
103	Clause 4.7 of TCC	Defect Liability Period is 18 months from successful completion of Trial Operation	We kindly request BHEL to consider stipulating the warranty period/ DLP period as 18 months from the date of receipt of equipment at site . Securing a longer warranty period is not feasible especially for bought-out items, and moreover, the Bidder has no control over the Trial Operation of the power plant unit. We trust this proposal will provide a fair and practical framework for warranty compliance.	Tender Conditions Shall Prevail.
104	TECHNICAL CONDITIONS OF CONTRACT (TCC) Chapter - XIII: Terminal Points Clause No.: - 13.1.3 Pg. No. 70 of 90	(iii) BHEL shall use the AHP Pipe Rack/Pedestal for laying the additional utility pipe/cable trays for other plant Utilities. Hence, AHP bidder has to provide the space on AHP Pipe Rack/Pedestal for these pipes/cable trays also.	Please indicate tentative size of additional pipe to be considered for Pipe Rack/Pedestal design	Bidder to refer Annexure- PEM pipes and ISG trays on AHP Pipe rack attached as part of this corrigendum
105	TECHNICAL CONDITIONS OF CONTRACT (TCC) Chapter - XII: Exclusions Clause No. 12.1 Pg. No. 69 of 90	Execution of Bottom Ash Hopper foundation. Foundation works (including supply foundation bolts) for Bottom ash hopper is excluded from the bidder scope. However, vendor should match the GA of superstructure in line with executed foundation footprint of BAH.	Please share foundation drawing of Bottom Ash Hopper	Shall be provided to successful bidder, during detail engg.
106	General		Please confirm MOC of Bottom Ash Overflow Sump/Tank	Bidder to refer clarification document HPGCL corrigendum 5 (HPGCL replies to Pre-bid queries) where type of bottom ash overflow tank is clarified.

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
107	TECHNICAL CONDITIONS OF CONTRACT (TCC) Chapter - III: Scope of Work Clause No. 3.6 Design Basis/Inputs Pg. No. 22 of 90	Number of Economizer Outlet Duct Hoppers is mentioned as 3 + 3 Number of Air Preheater Hoppers is mentioned as 4+4 Number of AH-ESP Duct Hoppers is mentioned as 4+4	Number of APH/ECO hoppers etc as shown in tender flow diagram doesn't match with TCC. Please confirm whether we can consider	Bidder to follow TCC reagrding no of ash hoppers.
108	General		ECO water pump & FA Water pumps are not shown in tender flow diagram. Please confirm we can consider the same as per specification.	Confirmed. Bidder to refer NIT flow diagram,specification and all annexures.
109	Pre qualification requirement, Annexure 1 PQR B.1 & B.2	In case bidder is not meeting requirement of water impounded bottom ash hopper referred under clause B.1 (a) B.2 (a) then bidder shall collaborate with the design agency for vetting/carrying out the design and engineering activity of water impounded bottom ash hopper. Design agency for water impounded bottom ash hopper can be either bottom ash system supplier meeting the qualification of clause B.1 (a) B.2 (a) or reputed/renowned Indian Technical Institution.	In line with recently concluded Sipat tender, below condition in " Bold " may please be added to the clause. Design agency for water impounded bottom ash hopper can be either bottom ash system supplier meeting the qualification of clause B.1 (a) B.2 (a) or reputed/renowned Indian Technical Institution or " a design consultant" having experience of design/review of Jet Pump System in conjunction with water impounded bottom ash hopper "	Tender Conditions Shall Prevail
110	Pre qualification requirement, Annexure 1 PQR B.4.1	For Civil: Bidder should have in past executed Ash Handling Plant of 500 MW or higher capacity Thermal power plant	We understand that the said clause corresponds to executed civil work of ash handling plant of 500 Mw or higher capacity thermal power plant. This understanding is in sync with your clause B.5.1. for structural work	Bidder Understanding is Correct.

Corrigendum - 5 dated 16/10/2025 to CPC Tender No. BHEL/CPC/YNR/EPC-AHP/26/041

SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
111	7-PART-2-Volume IV Electrical Works - Cluase No - 1.29.01- Page - 43 of 930	Battry Charger / Rating	Please confirm whether Ni-Cd or Lead Acid battery to be used.	Separate Battery Chargers and Batteries with DCDB shall be considered for AHP. Please refer PART-2-Volume IV Electrical Works - Cluase No - 1.29.01- Page - 43 of 930 for type of Battery Charger and Batteries.
112	Annexure-3 Eectrical and CI Scope Matrix for 1X800MW AHP YAMUNA NAGAR - Sr. No- 10	List of uncabled 11KV source feeders available to bidder. a) Only 2 No of 11KV uncabled Feeder shall be provided by BHEL to bidder for AHP application at two locations as mentioned below: Location-1 & 2 : Both un-cabled 11kV feeders are available at 3.5 Meter MV Switchgear room of Power house building.	Not identify in Layout drawing Location-1 & 2 : Both un-cabled 11kV feeders are available at 3.5 Meter MV Switchgear room of Power house building. Please provide the location of 3.5 Meter MV Switchgear room of Power house building.	MV Switchgear Room is located at 3.5m level elevation (Cable Vault at 0.0m) in Power House Building (TG Building) between A-C Row and Grid No. 3 to 5.
113	7-PART-2-Volume V Control and Instrumentation Cluase No -3.19.1 (a)- Page - 12 of 702	Triple / Dual measurement schemes shall be provided for triple / dual redundant sensors used in closed loop and open loop controls.	Proposed ash handling system having no critical input . So We have not considered Triple / Dual measurement sensor schemes used in closed loop and open loop controls. Please accept the same	Ash evacuation is Critical for Plant Power Generation. Bidder to follow specification
114	7-PART-2-Volume V Control and Instrumentation Cluase No - 4.00.00 (a)- Page - 12 of 702	All the primary instrument like microprocessor based transmitter including temperature transmitter employing HART Protocol.	As per NIT , We have considered Microprocessor based 2 wire loop powered or 4 wire type electronic transmitter with 4-20 mA DC HART output signal for Electronic Transmitter (PT , DPT , TT etc) . Please confirm.	Bidder to follow specification
115	Annexure-3 Eectrical and CI Scope Matrix for 1X800MW AHP YAMUNA NAGAR - Sr. No-6	Vibration Monitoring/Analysis System (VMS/VMAS) - Vibration Sensor	Please provide the number of Qty of Vibration Sensor used for HT Motor & PUMP	Bidder to follow specification

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
116	Annexure-3 Electrical and CI Scope Matrix for 1X800MW AHP YAMUNA NAGAR - Sr. No- 4	HT Motors for Water and Slurry Pump application Bidder to refer Sl No 13 for BHEL free issue HT motors available to bidder Note : HT motor for any other applications other than Water and Slurry Pump is in bidders scope.	Bidder understand that Temperature Measuring System is not in our scope of supply & also clarify , Temperature Transmitter is required or not for HT Motor Winding & Bearing temperature measurement .	Bidder understanding is not correct. Temperature measuring system for all HT Motors including BHEL free issue HT Motors is in the scope of bidder. Bidder to follow specifications for type of Temperature measuring system.
117	7-PART-2-Volume V Control and Instrumentation - Page 29 of 702 Table -IV	5 Nos Hand Held Calibrator for HART compatible devices Total for Unit	Bidder understand that 5 Nos Hand Held Calibrator for HART compatible devices Total for Unit shall be supplied by Bidder . Please confirmed.	Bidder to follow specification
118	Chapter - VIII: Liquidated Damages, 8.2.2 & 8.2.3	LIQUIDATED DAMAGES/PENALTIES FOR SHORTFALL IN GUARANTEED PERFORMANCE PARAMETERS:	We request you to kindly review Cl.8.2.2,the option of 'make good' i.e allowing necessary modification to make the system comply with guaranteed requirement should also be allowed for shortfall condition of $\leq 20\%$. For Cl. 8.2.3, the cumulative LD of 25% is too high, request to review and change as per established & prevailing norms.	Tender Conditions shall prevail.
119	NIT PQR, Clause No. B.2, pg 18 of 43 Notes :- 2	For Clause B.1 and B.2, the bidder shall be required to furnish Deed of Joint Undertaking (DJU)	Please note that we qualify on our own under clause B.1 and hence no DJU is required. Hence please clarify the requirement.	This is the requirement of Customer & consultant. Thus, bidder to follow NIT specification.
120	TCC clause no. 3.6.3 : Misc. Equipment, pg. 23 of 90, line 4	, Elevator in Ash Handling Plant ..	Please let us know where this elevator is required for be installed.	Bidder to refer chapter-29 for the requirement of elevator.

Corrigendum - 5 dated 16/10/2025 to CPC Tender No. BHEL/CPC/YNR/EPC-AHP/26/041

SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
121	TCC clause no. 12.2 : pg. 69 of 90, Exclusion	Supply of all HT motors (except for compressors,	Please let us know if this includes IA compressors also or only for transport air compressors.	HT motor for any other applications other than Water and Slurry Pump is in bidders scope , as per Sl.no. 4 of ANNEXURE-3 Rev01-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX .
122	TCC clause no. 13.1.3 : pg. 70 of 90, (ii) & (iii)	BHEL shall use	Please furnish the details of BHEL Pipes and Cable trays to enable us size the pipe rack and pedestals.	Bidder to refer Annexure- PEM pipes and ISG trays on AHP Pipe rack attached as part of this corrigendum
123	TCC clause no. 3.6.1 : pg. 22 of 90,	Common water system	Please let us know the size of various pipes considered by BHEL for the water specified to enable us estimate the valve sizes to be considered in our scope.	Shall be furnished during detailed engineering with the successful bidder.
124	Ch. 20 : Mill reject system, clause 20.1.2, pg. 2 of 7		Please specify the number of mills and the sectional drawing and elevation of the Mill outlet.	Specification requirement is clear. Refer clause 5.0 (a) of EQUIPMENT DESIGN/SELECTION CRITERIA FOR MILL REJECT SYSTEM page 7 of 74 . Drawing HY-BM-0-00-620-087129 attached.
125	Ch. 20 : Mill reject system, clause 20.1.2, pg. 2 of 7	Mill Bay	Please let us know the number of mills in each bay.	Front mill arrangement with 8 mills. Refer clause 5.0 (a) of EQUIPMENT DESIGN/SELECTION CRITERIA FOR MILL REJECT SYSTEM page 7 of 74.
126	Ch. 20 : Mill reject system, clause 20.1.2, pg. 2 of 7	Suitable spray quenching, to cool the mill reject in pyrite hoppers from service water discharge pump.	Please elaborate the scope of service water pump. It is not clear from the specification which are these pumps and in whose scope will be these pumps be. The terminal points in the TCC is also silent on this requirement.	These pumps are for service water for quenching requirement of pyrite hoppers. Kindly refer sl no 2 "UTILITY REQUIREMENT" for scope. Further refer Zone FG-5 of " Single line flow diagram of Mill Reject Handling system" page 68 of 74 for terminal point.
127	Ch. 20 : Mill reject system, clause 20.1.3, pg. 3 of 7	The orientation of Mill Reject Pyrite hopper shall not face each other.	Please provide the boiler area drawing with mill outlet to enable us check and design the system.	"Floor plan at Mill Bay" and "Section View of Mill Bay" are already part of tender specification. Refer page 72 & 73 of 74.

Corrigendum - 5 dated 16/10/2025 to CPC Tender No. BHEL/CPC/YNR/EPC-AHP/26/041

SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
128	NOTICE INVITING TENDER ANNEXURE - 1 PRE QUALIFYING REQUIREMENTS (PQR) Clause B (B.1, B.2)	ASH HANDLING SYSTEM B.1 Bidder should have executed at least one (1) ash handling plant involving design, engineering, manufacture (or got manufactured), supply, erected & commissioned (or supervised erection and commissioning)	We request to introduce the EPC Rout in the pre qualification criteria like other customer (NTPC, BHEL, DVC, TSGENCO etc.) so that EPC bidders with collaboration with QAHPM can also participate in the tender and you will have more and adequet competitive bid and get better price. Recently so many tenders have the same clause. Below is some of the recent tender where EPC route are available. NTPC/BHEL Sipat (1 X 800MW) , NTPC/BHEL Singrauli (2 X 800 MW) , NTPC Gadawara (2 X 800MW) , NTPC Nabinagarh (3 X 800MW).	Tender Conditions Shall Prevail
129	NOTICE INVITING TENDER ANNEXURE - 1 PRE QUALIFYING REQUIREMENTS (PQR) Clause B.4 (B.4.1)	Civil work Bidder should have in past executed Ash Handling Plant of 500 MW or higher capacity Thermal power plant	We proposed the incorporation of qualifying requirement that has been given customer like BHEL in NTPC Singrauli (2 X 800MW) with identical civil scope of work that read as follows:- Quote	Tender Conditions Shall Prevail
130	NOTICE INVITING TENDER ANNEXURE - 1 PRE QUALIFYING REQUIREMENTS (PQR) Clause B.4 (B.4.2)	Bidder should have capability of executing civil works in the past and the rate of execution of the reference work should not be less than 16000 Cum in a year in single work order	For Civil: Bidder shall fulfil either "A.5.1" OR "A.5.2.1 (a) & A.5.2.2" OR "A.5.2.1 (b) and A.5.2.2" in last Ten Years from the latest date of bid submission; A.5.1 For civil works of Ash Handling Plant, Bidder should have executed Ash Handling Plant of 500 MW or higher capacity Coal based/Lignite based power plant. A.5.2.1 (a) Bidder should Have Executed 9,048 Cum of RCC Quantities within a period of Twelve Consecutive months in onerunning/complete contract. A.5.2.1 (b) Bidder should Have executed 13,572 Cum of RCC Quantities within a period of Twelve Consecutive months in Cumulative of two running/complete	Tender Conditions Shall Prevail

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
			contract. A.5.2.2 Bidder should have executed one "RCC Silo of at least 24 mts height" OR "Shell of one RCC Chimney up to at least 16 mtsheight" OR "Shell of one NDCT up to at least 16 mts height" OR "any other RCC structure up to at least 32 mts height using Slip-Form/ Jump-Form Technique" in a running/completed contract. Unquote This will insure more competitive bidding enabling the Board to have a better price.	
131	TECHNICAL CONDITIONS OF CONTRACT (TCC) Chapter - III: Scope of Work Miscellaneous Equipment Clause : 3.6.3	Clarifier along with chemical dosing system, chemicals	Nothing is shown in the tender flow diagram. Kindly eleaborate the scope of clarifier. i.e input to clarifier its location etc. is there any pump is envisaged below clarifier.	Bidder to refer NIT specification,its annexures regarding complete scope of AHP clarifier. Details are specified in AHP chapter (Ch-21), WTP (Ch-5),ETP (Ch-11), clarification document HPGCL corrigendum 5 & 8 (HPGCL replies to Pre-bid queries) for the clarification on type/scope of clarifier
132	VOLUME - III MECHANICAL Ash Disposal System Clause No. 21.7.1	Each disposal pipe length shall be considered as 7 KM from the pump house	Kindly confirm , supply of entire slurry disposal pipe outside the plant boundary is in the scope of bidder. Also please confirm that pedestal required at the outside of plant boundary is also in the scope of bidder.	Confirm. Refer NIT specification for slurry pipe quantities.
133	VOLUME - III MECHANICAL Ash Disposal System Clause No. 21.7.4	Each ash dyke shall be having 3 discharge point for all the three lines. A total length of 24000 M shall be considered in the scope of supply for 3 ash disposal pump series.	If 3 Nos. pipe line having length 7km each the total pipe quantiy will be 21000 m. Kindly clarify.	Bidder to follow NIT specification

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SL. NO.	Clause No	Specification	Clarification Requested	BHEL Response
134	VOLUME - III MECHANICAL Clause No. 21.9.4	Fly ash system shall be designed to remove fly ash in maximum five (5) hours per shift of 8 hours while firing worst coal and considering six (6) streams operating simultaneously.	In the flow diagram for Vacuum conveying system 8 Nos. streams are envisaged. Kindly confirm the number of streams.	Bidder to refer clarification document HPGCL corrigendum 5 (HPGCL replies to Pre-bid queries) where no. of vacuum pump is clarified.
135	VOLUME - III MECHANICAL Slurry pump House Clause No. 21.12.3.1	Ash slurry pump house	We understand that Ash slurry pump house, ash water pump house, compressor house, silo utility building , MCC room etc are of RCC construction type and not structural building.	Bidder's understanding is correct.
136	VOLUME - III MECHANICAL DATA SHEET ASH HANDLING SYSTEM Clause No. 4.1	Clinker grinder : Qty ;6 (3W+3S); Heavy duty Double Roller	Kindly confirm single roll clinker grinder is also acceptable to you.	Bidder to follow NIT specification
137	VOLUME - III MECHANICAL DATA SHEET ASH HANDLING SYSTEM Clause No. 11.1	Vacuum Pumps 12(6 W+6 S); Low speed Liquid Ring Type	As per Flow diagram - Fly Ash handling system (drg. No. 111-13-5203, R1) the quantity of vacuum pump is 16 Nos. (8W+8S) . Kindly confirm the exact requirement.	Bidder to refer clarification document HPGCL corrigendum 5 (HPGCL replies to Pre-bid queries) where no. of vacuum pump is clarified.
138	TECHNICAL CONDITIONS OF CONTRACT (TCC) Chapter - III: Scope of Work Miscellaneous Equipment Clause : 3.6.3	Elevator in Ash handling plant as per specification	In the specification of elevator (29.0 ELEVATORS _Mechanical), no where it is indicated that elevator is required in AHP area. Kindly specify the area where elevator are required for AHP and mill rejects)	Please refer Elevator chapter Ch-29 for the requirement of elevators
139	Plot Plan	Plot plan	We request to provide the same in Auto CAD as well as Pdf version.	PDF version is attached as Annexure-4. Aut cad version cannot be provided during the bidding stage.

Corrigendum - 5 dated 16/10/2025 to CPC Tender No. BHEL/CPC/YNR/EPC-AHP/26/041

B) Modifications in NIT conditions is revised as mentioned below:

SL. NO.	Existing	Current	Remarks
1		DJU of Mill Reject System	Added upon receipt from Customer as part of tender document
2	Subsequently, Successful Bidder shall submit the broad BBU in line with the clause no 7.12 of TCC as per the attached Annexure-19 of TCC within 7 days from date of LOI.	Subsequently, Successful Bidder shall submit the broad BBU in line with the clause no 7.11 of TCC as per the attached Annexure-19 of TCC within 7 days from date of LOI.	Typographical Error

- 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

Sr. Manager/ SCT

FORM OF DEED OF JOINT UNDERTAKING
(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

DEED OF JOINT UNDERTAKING TO BE EXECUTED BY EPC CONTRACTOR
M/s BHEL
ALONG WITH THE SUB-VENDOR AND/OR ITS COLLABORATOR / ASSOCIATE
_____ & _____ FOR
MILL REJECT HANDLING SYSTEM (MRHS)
FOR
1 X 800 MW DEEN BANDHU CHHOTU RAM ULTRA SUPER CRITICAL THERMAL
POWER PLANT AT YAMUNA NAGAR, HARYANA, INDIA
(AS PER PROVENNESS CRITERIA CLAUSE 4.4.11 OF VOLUME II, CHAPTER 4 OF
NIT & CORRIGENDA)

This DEED of JOINT UNDERTAKING ('DJU') executed this..... day
of.....
Two Thousand..... by :-

M/s BHEL, a company registered under the having its
registered office at..... (hereinafter called the **"EPC Contractor"**
or **"Contractor"**, which expression shall include its successors, legal hires,
administrators, executors and permitted assigns)

AND

M/s a Company incorporated
under..... having its Registered Office at
.....(hereinafter called the **"Sub-Vendor"**, which expression shall
include its successors, legal hires, administrators, executors and permitted assigns)

AND/OR

M/s a Company incorporated
under..... having its Registered Office at
.....(hereinafter called the **"Associate"/"Collaborator"**, which
expression shall include its successors, legal hires, administrators, executors and
permitted assigns)

IN FAVOUR OF

Haryana Power Generation Corporation Limited, incorporated under the
Companies Act 1956, having its registered office at Urja Bhawan, Sector – 6,
Panchkula, Haryana - 134109, INDIA (hereinafter called **"HPGCL"** or
"Employer" which expression shall include its successors, legal hires,
administrators, executors and assigns).

WHEREAS, the Employer invited Bids for design, engineering, manufacture, supply,
transportation to site, installation, erection, testing, commissioning and carrying out
Guarantee tests for Mill Reject Handling System (MRHS) Package for its 1x800 MW
Ultra Super Critical Expansion Unit at Deen Bandhu Chhotu Ram Thermal Power Plant,
Yamuna Nagar, Haryana, India (hereinafter referred to as "Plant") as specified in its

Bidding Document No. 03/HPGCL/DCRTPP/EPC/ 800 MW and Employer has awarded the work to EPC Contractor vide Revised Letter of Intent ('LOI') dated 20.03.2025 and Purchase Order and Work Order ('WO') dated 21.03.2025 and Contract Agreements dated 24.03.2025 resulting into a legal binding Contract.

WHEREAS, Clause 4.4.11, Chapter 4.0: Provenness, Volume II, Generals & Schedules of Bidding Document provides conditions for execution of work of 'Mill Reject Handling System' either by the EPC Contractor himself or in collaboration with Sub-Vendor(s)/Associate(s)/Collaborator(s) provided that such Sub-Vendor(s)/ Associate(s)/Collaborator(s) fully meets the requirements stipulated in Clauses 4.4.11.1, 4.4.11.2, and 4.4.11.3 contained in Chapter 4.0: Provenness, Volume II, Generals & Schedules of Bidding Document.

WHEREAS in the case the EPC Contractor intends to execute work of MRHS in collaboration/association with Sub-Vendor(s)/Associate(s)/Collaborator(s), Clause 4.4.11.2, Chapter 4.0: Provenness, Volume II, Generals & Schedules of Bidding Document obligates the EPC Contractor to furnish a Deed of Joint Undertaking ('DJU') at the time of placement of order on the Sub-Vendor(s)/Associate(s)/Collaborator(s) jointly executed by the EPC Contractor and such Sub-Vendor(s)/Associate(s)/ Collaborator(s) thereby making each executant of the Deed jointly and severally liable for the successful performance of the system as per NIT specifications.

AND WHEREAS M/s.....(EPC Contractor) associated with M/sfor execution of work of MRHS on the basis of express representation and certification regarding meeting of criteria as per Clause 4.4.11.1 and 4.4.11.3.

NOW THEREFORE, THIS DEED WITNESSETH AS UNDER:

1. That in consideration of the Award of the Contract by the Employer to the EPC Contractor, we, the aforesaid Sub-Vendor and/or Associate(s)/ Collaborator (s) and the EPC Contractor, do hereby declare and undertake that we shall be jointly and severally responsible to the Employer for the successful design, execution & completion of the MRHS complete in all aspects and perform all the contractual obligations including the technical guarantees including all associated equipments & systems of Mill Reject Handling System as per NIT requirements.
2. In case of any breach of the Contract committed by the EPC Contractor, we, the Sub-Vendor and/or its Associate / Collaborator, do hereby undertake, declare and confirm that we shall be fully responsible for the successful design, execution, erection, testing, commissioning & completion of the MRHS including its associated auxiliaries and undertake to carry out all the obligations and responsibilities under the Contract in order to discharge the Contractor's obligations and responsibilities stipulated in the Contract. Further, if the Employer sustains any loss or damage on account of any breach of the Contract, we, the Sub-Vendor and/or its Associate / Collaborator, jointly and severally undertake to promptly indemnify, and pay such losses/damages caused to the Employer on its written demand without any demur, reservation, contest or protest in any manner whatsoever, without effecting to the Owner.

This is without prejudice to any rights of the Employer under the Contract and/or guarantees. It shall not be necessary or obligatory for the Employer to first proceed against the Contractor before proceeding against the Sub-Vendor/Associate/ Collaborator, nor would any extension of time or any relaxation given by the Employer to the Contractor prejudice

any rights of the Employer under this Deed of Joint Undertaking to proceed against the Sub-Vendor/Associate/ Collaborator.

3. Without prejudice to the generality of the undertaking in paragraph 1 above, the manner of achieving the objectives set forth in paragraph 1 above shall be as follows:

- (a) The Sub-Vendor/Associate/Collaborator will be fully responsible for design, engineering, execution, erection, testing, commissioning and successful completion of entire MRHS including all its associated auxiliaries as per the satisfaction of the Employer.

Further, the Sub-Vendor/Associate/Collaborator shall depute their technical experts from time to time to the Contractor's works/Employer's project site as required by Employer to facilitate the successful design, execution erection, testing, commissioning and completion of the entire MRHS including all its associated auxiliaries as stipulated in the aforesaid Contract.

Further the Sub-Vendor/Associate/Collaborator shall ensure proper design, engineering, execution, testing, commissioning and successful completion of MRHS in accordance with the specifications and stipulations of the NIT & corrigenda and if necessary, the Sub-Vendor/Associate/Collaborator shall advise the Contractor suitable modifications of design and implement necessary corrective measures to discharge the obligations under the Contract.

- (b) In the event the Contractor fail to demonstrate successful performance of the MRHS including all its associated auxiliaries as set forth in paragraph 1 above, Sub-Vendor/Associate/Collaborator and the Contractor shall promptly carry out all the measures at their own expense(s) and shall promptly provide corrected designs to the Employer.
- (c) Implementation of the corrected designs and all other necessary repairs, replacements, rectifications or modifications in the MRHS including all its associated auxiliaries shall be carried out as per NIT requirements. Thereafter, the Contractor and the Sub-Vendor/Associate/Collaborator shall demonstrate the successful performance of the MRHS and its auxiliaries meeting the guaranteed performance parameters as per the tender document.
- (d) All obligations, whether financial or performance based, including but not limited to imposition of penalties, payment of compensation for delays/default/deficient performance etc. and meeting guaranteed results/values, shall be the joint and several responsibilities of the Contractor and the Sub-Vendor/Associate/Collaborator. HPGCL reserves the right to deduct any such loss/charge/compensation from the payment due/security tendered by the EPC Contractor/ Sub-Vendor/Associate/Collaborator.

4. We, the Contractor and Sub-Vendor/Associate/Collaborator do hereby undertake and confirm that this Deed of Joint Undertaking (DJU) shall be irrevocable and shall not be revoked till the expiry of 90 days of satisfactory completion of contract or Defect Liability period whichever is later. In case of delay completion of contract or Defect Liability Period, the validity of this Deed of Joint Undertaking shall be extended by such period of delay. We further agree that this DJU shall be without any prejudice to the various liabilities of the Contractor, including the Contract Performance Security

and / or other securities submitted by the Contractor to HPGCL and other obligations of the Contractor in terms of the Contract.

- 5. The Contractor and Sub-Vendor/Associate/Collaborator will be fully responsible for the quality of MRHS and its associated auxiliaries including the materials incorporated in such works whether fabricated at their works or at their Sub-Vendor's/Associate's works or constructed/fabricated at site, and their repairs or replacement, if necessary, for timely delivery execution thereof to meet the work schedule under the Contractual provisions.
- 6. In addition to the Contract Performance Security and / or other securities submitted by the Contractor to HPGCL, the Sub-Vendor/Associate/Collaborator shall furnish "as Security" an on-demand Performance Bank Guarantee in favour of the Employer in a form acceptable to Employer as per provisions of the NIT. The value of such Bank Guarantee shall be equal to INR 2 Million (Rupees two million only) and it shall be guarantee towards the faithful performance/compliance of this Deed of Joint Undertaking in accordance with the terms and conditions specified herein and the terms and conditions under the Contract. The Bank Guarantee shall be unconditional, irrevocable and valid for entire period of Contract, i.e. till ninety (90) days beyond the end of the satisfactory completion of contract or Defect Liability period whichever is later. In case of delay in completion of the contract or Defect Liability Period, the validity of this Bank Guarantee shall be extended by the period of such delay. The Bank Guarantee amount shall be promptly paid to the Employer on demand without any demur, reservation, protest or contest.
- 7. Any dispute that may arise in connection with this Deed of Joint Undertaking shall be settled as per arbitration procedure/rules mentioned in the Contract. This Deed of Undertaking shall be construed and interpreted in accordance with the Laws of India and the Courts of Panchkula, Haryana, India shall have exclusive jurisdiction.
- 8. We, the EPC Contractor and Sub-Vendor/Associate/Collaborator agree that this Undertaking shall form an integral part of the Contract. We further agree that this Undertaking shall continue to be enforceable till the successful completion of Contract or Defect Liability period whichever is later.
- 9. That this Deed shall be operative from the date of execution of this DJU.

IN WITNESS WHEREOF, the EPC Contractor and Sub-Vendor/Associate/Collaborator, through their authorised representatives, have executed these present and affixed common seals of their respective companies on the Day, Month and Year first mentioned above.

For M/s
(Sub-Vendor/Collaborator/Associate)

Witness :

- 1.
(Signature) (Signature of the authorised representative)
- Name :

(Name & Official Address)

Designation :.....

Common Seal of the Company
.....

For M/s.....
(EPC Contractor)

Witness :

1.
(Signatures)

.....
(Signature of the authorized
representative)

.....
(Name & Official Address)

Name :.....

Designation :.....

Common Seal of the Company
.....

IN FAVOUR OF

OWNER

(Signature of the authorized
Representative OF OWNER)

Name :.....

Designation :.....

Place:

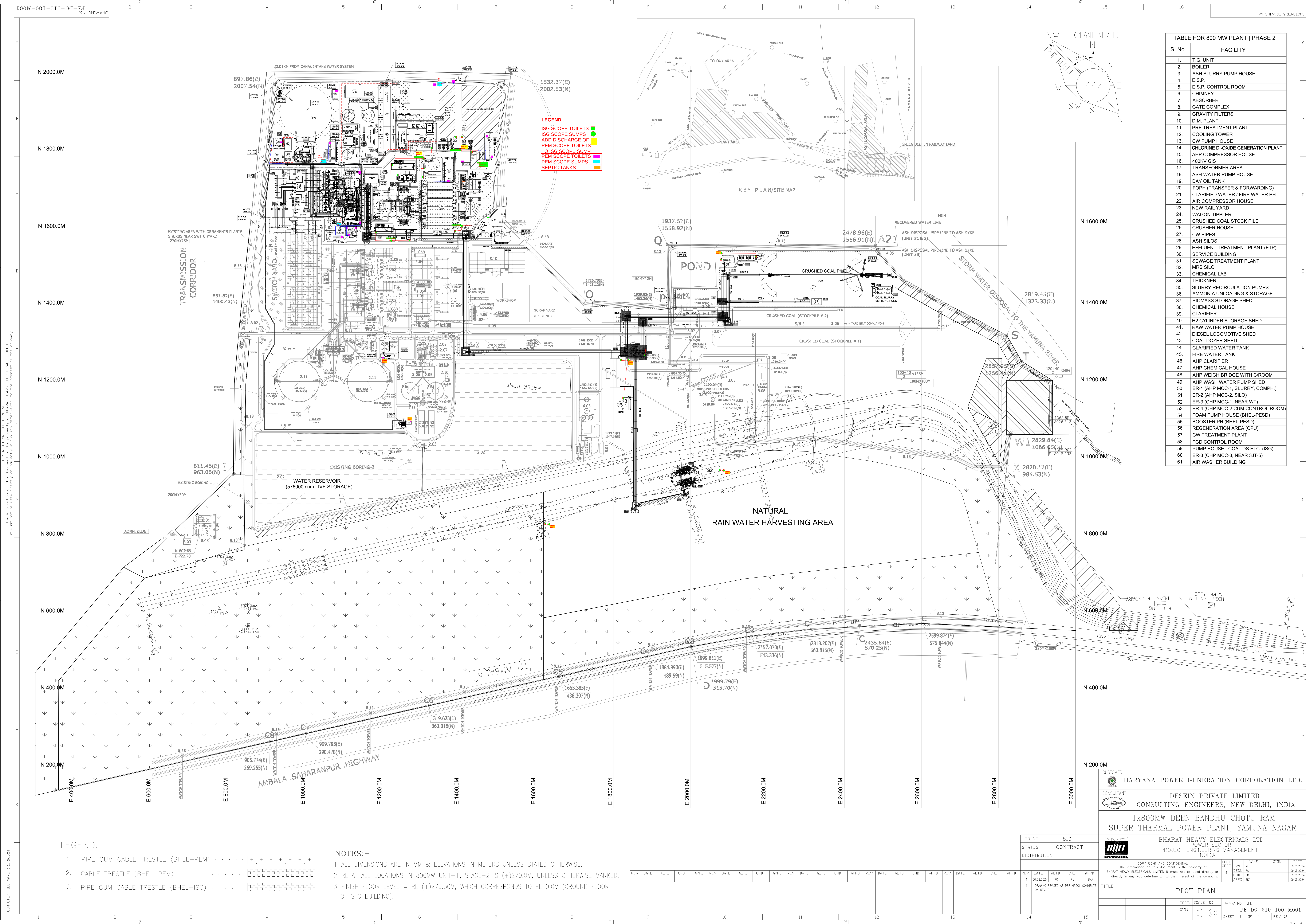


TABLE FOR 800 MW PLANT PHASE 2	
S. No.	FACILITY
1.	T.G. UNIT
2.	BOILER
3.	ASH SLURRY PUMP HOUSE
4.	E.S.P.
5.	E.S.P. CONTROL ROOM
6.	CHIMNEY
7.	ABSORBER
8.	GATE COMPLEX
9.	GRAVITY FILTERS
10.	D.M. PLANT
11.	PRE TREATMENT PLANT
12.	COOLING TOWER
13.	CW PUMP HOUSE
14.	CHLORINE DIOXIDE GENERATION PLANT
15.	AHP COMPRESSOR HOUSE
16.	400KV GIS
17.	TRANSFORMER AREA
18.	ASH WATER PUMP HOUSE
19.	DAY OIL TANK
20.	FOPH (TRANSFER & FORWARDING)
21.	CLARIFIED WATER / FIRE WATER PH
22.	AIR COMPRESSOR HOUSE
23.	NEW RAIL YARD
24.	WAGON TIPPLER
25.	CRUSHED COAL STOCK PILE
26.	CRUSHER HOUSE
27.	CW PIPES
28.	ASH SILOS
29.	EFFLUENT TREATMENT PLANT (ETP)
30.	SERVICE BUILDING
31.	SEWAGE TREATMENT PLANT
32.	MRS SILO
33.	CHEMICAL LAB
34.	THICKNER
35.	SLURRY RECIRCULATION PUMPS
36.	AMMONIA UNLOADING & STORAGE
37.	BIOMASS STORAGE SHED
38.	CHEMICAL HOUSE
39.	CLARIFIER
40.	H2 CYLINDER STORAGE SHED
41.	RAW WATER PUMP HOUSE
42.	DIESEL LOCOMOTIVE SHED
43.	COAL DOZER SHED
44.	CLARIFIED WATER TANK
45.	FIRE WATER TANK
46.	AHP CLARIFIER
47.	AHP CHEMICAL HOUSE
48.	AHP WEIGH BRIDGE WITH C/ROOM
49.	AHP WASH WATER PUMP SHED
50.	ER-1 (AHP MCC-1, SLURRY, COMPH.)
51.	ER-2 (AHP MCC-2, SILO)
52.	ER-3 (CHP MCC-1, NEAR WT)
53.	ER-4 (CHP MCC-2 CUM CONTROL ROOM)
54.	FOAM PUMP HOUSE (BHEL-PESD)
55.	BOOSTER PH (BHEL-PESD)
56.	REGENERATION AREA (CPU)
57.	CW TREATMENT PLANT
58.	FGD CONTROL ROOM
59.	PUMP HOUSE - COAL DS ETC. (ISG)
60.	ER-3 (CHP MCC-3, NEAR J/T-5)
61.	AIR WASHER BUILDING

- LEGEND:
- 1. PIPE CUM CABLE TRESTLE (BHEL-PEM)
 - 2. CABLE TRESTLE (BHEL-PEM)
 - 3. PIPE CUM CABLE TRESTLE (BHEL-ISG)

NOTES:-

1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. RL AT ALL LOCATIONS IN 800MW UNIT-III, STAGE-2 IS (+)270.0M, UNLESS OTHERWISE MARKED.
3. FINISH FLOOR LEVEL = RL (+)270.50M, WHICH CORRESPONDS TO EL 0.0M (GROUND FLOOR OF STG BUILDING).

JOB NO. 510
STATUS CONTRACT
DISTRIBUTION

HARYANA POWER GENERATION CORPORATION LTD.

DESEIN PRIVATE LIMITED
CONSULTING ENGINEERS, NEW DELHI, INDIA

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

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DEPT.	SCALE	1:425
DEPT. <td>SCALE</td> <td>1:425</td>	SCALE	1:425

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD
1	30.08.2024	RC	PM	BAK																									

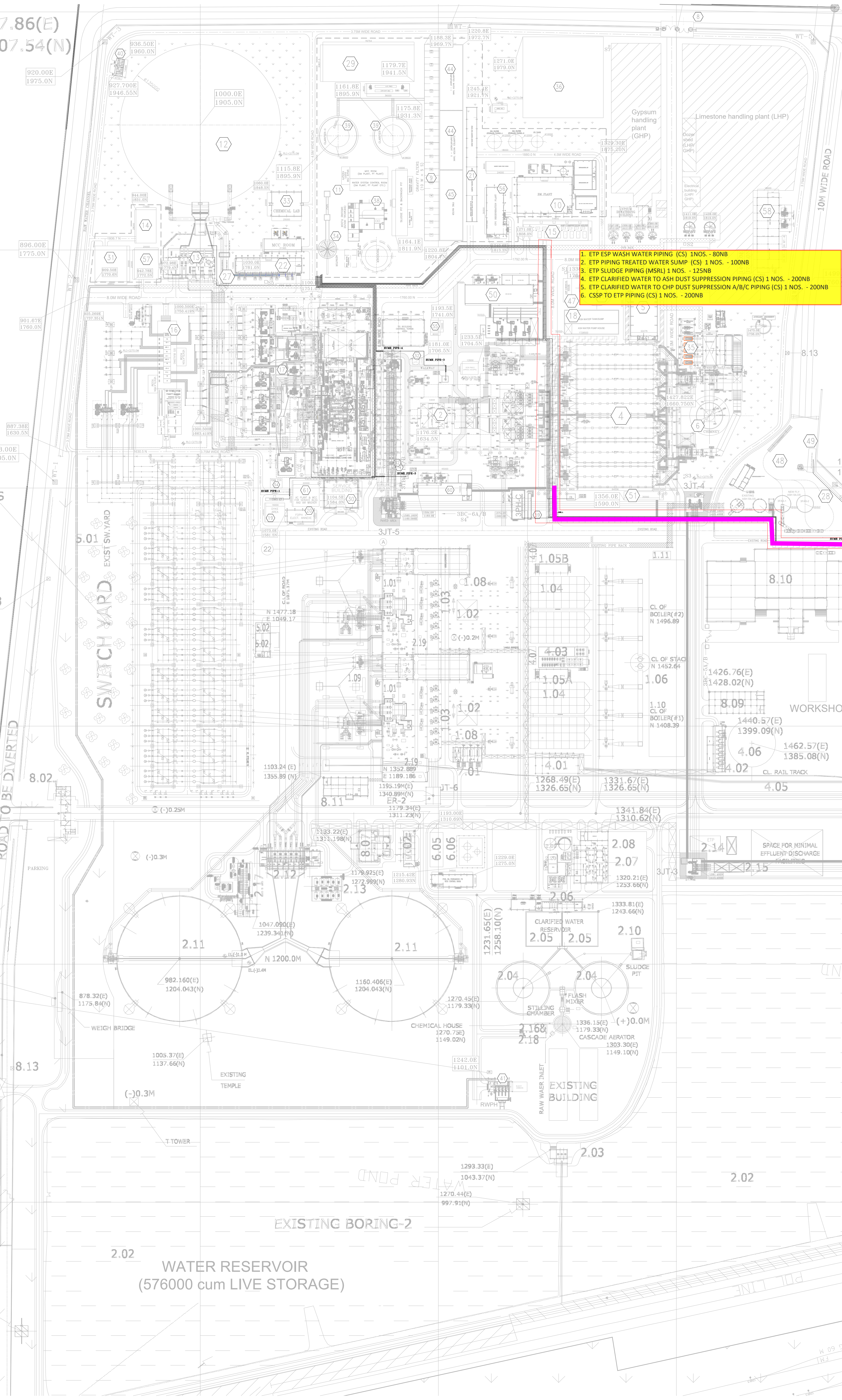
PLOT PLAN

DRAWING NO. PE-DG-510-100-M001

SHEET 1 OF 1

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR						1X800 MW HPGCL YAMUNA NAGAR AHP PACKAGE	Rev: 01 Dated: 09-10-2025
SL. NO.	SCOPE DETAILS	INPUT DETAILS	ENGINEERING / DESIGN	SUPPLY	RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING	REMARKS	
1	Complete Electrical and C&I System except for BHEL free issue equipment's as below 1) 11KV Switchboard 2) 6.6KV Switchboard 3) 6.6KV HT Motor 4) DCS 5) VMS 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.	EPC Bidder	EPC Bidder	EPC Bidder	EPC Bidder	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 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 storage to bidders storage/facilities shall be in bidders scope. Bidder shall provide min. 2 Nos. uncabled feeders each of 250A, 100A, 63A, 32A, 16A rating (1 No in 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. 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. Bidder shall provide the Illumination, Earthing, Lightning protection for all areas where Civil & structural is in bidder scope. Wherever integration of bidder supplied items with BHEL supplied system is involved, necessary integration shall be done by the bidder. Security of all equipment's including BHEL free supply till handing over to end customer is in scope of bidder. Obtaining Statutory clearance is in Bidders scope including BHEL free issue equipment's.	
2	1. MCC buildings/control rooms/ any other electrical building required as per scope of this pacakge 2. Cable trestle/rack required as below in is bidders scope. a. For all bidders facilities . b. For BHEL free supply items located in BHEL buildings & bidder buildings c.Any interconnection required for bidder equipment from BHEL buildings	EPC bidder	EPC bidder	EPC bidder	EPC bidder	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 . Connection between oil retention pit(Bidders scope of Transformer) to common oil retention pit located in main plant area is in bidders scope. The interconnection between Bidders earthing and Existing/Main earth grid is in Bidder scope. Space Provision for BHEL other package cable trays (excluding supply) in AHP pipe rack is in AHP bidders scope . Please refer plot plan Annexure 1 for further details	
BHEL FREE ISSUE EQUIPMENTS							
3	11KV and 6.6KV Switchboard One number each of 11kV and 6.6kV 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.	EPC Bidder	BHEL BHOPAL	BHEL BHOPAL	EPC Bidder	Bidder to refer SI No 10 for 11kV power supply source availability. Bidder shall submit Electrical load list and transformer sizing within 3 months from LOI All Upstream/downstream tripping and interface/signal exchange between SI No 10, 11, 12 shall be in the bidder's scope. 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 11/6.6 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 . Few additional 11KV/6.6KV 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. During the engineering of the HT bus duct, interconnection between the bidder-supplied 11/6.6 kV transformer and the BHEL free-issued 6.6 kV switchboard, the bidder shall ensure that relevant inputs are obtained from BHEL for the termination of the HT bus duct at the 6.6 kV switchgear end. The bidder shall also ensure that the forward phase sequence, correct CT parameters are maintained during detailed engineering of 11kV and 6.6KV Switchboard. 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	
4	HT Motors for 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 Water and Slurry Pump is in bidders scope.	EPC Bidder	BHEL BHOPAL	BHEL BHOPAL	EPC Bidder	Bidder shall provide qty, rating, TS curve, speed, GD2 type of mounting and coupling details as input to BHEL within 4 months from LOI. Temperature measuring system, LPBS for all BHEL free issue HT motors shall be in the bidder's scope . The supply of consumables and lubrication for BHEL free issue HT motors is included in the bidder's scope.	
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	Bidder's scope includes the following: 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 HCSD System, Classifier, Baggifier, DBA and any other PLC operated equipment's, including its HMI, UPS, PC, printers, battery, battery charger etc.	
6	Vibration Monitoring/Analysis System (VMS/VMAS)	EPC Bidder	BHEL EDN	BHEL EDN/EPC Bidder	EPC Bidder	Bidder to provide sensor and key phasor mounting arrangement for bidder supplied equipment's as per contractual requirement. 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. Balance items required for completeness of the system are in the scope of Bidder .	
7	Roof Top Solar System	BHEL-SBD/RUDRAPUR	EPC Bidder	EPC Bidder	EPC Bidder	For estimation, the Bidder may take 50 KWp 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.	
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	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. 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.	
9	PA System	BHEL PEM / EPC BIDDER	BHEL PEM	BHEL PEM	BHEL PS REGION	All AC/DC/UPS/Aux Power supply required for above equipment's shall be arranged by bidder.	

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR						1X800 MW HPGCL YAMUNA NAGAR AHP PACKAGE	Rev: 01 Dated: 09-10-2025
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 to bidder for AHP application at two locations as mentioned below: Location-1 & 2 : Both un-cabled 11kV feeders are available at 3.5 Meter MV Switchgear room of Power house building.					a) 11KV Tie feeder for 11 kv AHP switchboard at SI No 3 - Maximum MVA available is 10 MVA .	Battery limit for Cable rack, cable trays, supports for 11KV Tie feeder from Main plan TG building (3.5m MV Swgr Room Power House) to 11kV AHP switchboard is as below : Adequate nos. of cable trays and tray support from Main Power House MV Swgr room to C-row pipe cum cable rack upto Column number-1 shall be provided by BHEL for bidder's scope of 11kV Cables for feeding the 11kV AHP Switchboard. During contract stage, Vendor will provide the number of cable trays required along with their loading details as input to BHEL . Beyond this point, only space shall be provided for vendor in BHEL cable trestle upto the nearest planned BHEL cable trestle near 11kV AHP siwtchboard. Supply & installation of Cable Trays and support in BHEL's cable trestle shall be in Bidder's scope. During contract stage, Vendor will provide the number of cable trays required along with their loading details as input to BHEL for reserving the space in BHEL Cable trestle/ cable rack for bidder's cables. Further, Cable rack along with cable trays & support shall be provided by Vendor for connecting the 11kV AHP Switchgear room with the nearest BHEL cable trestle. Complete cable supply, laying & termination at both ends (i.e. from 3.5m MV Swgr Room in Power House to 11kV AHP Switchboard) is in bidder's scope.
11	List of 11KV O/G feeders available to bidder. Location of switchboard : To be decided by Bidder					a) 11KV Transformer Feeder (11/6.6kV)- up to 16MVA b) 11KV Transformer Feeder (11/0433kV)- up to 2500KVA	a) 2 Nos b) 6 Nos
12	List of 6.6KV O/G feeders available to bidder. Location of switchboard : To be decided by Bidder					a) 6.6KV Motor feeder b) 6.6KV Transformer Feeder VFD application	a) 22 Nos b) 0 Nos
13	BHEL free issue HT motors available to bidder					6.6KV Motor	16 Nos
Battery limit for hopper level integration of AHP sytem							
14	ESP Hopper High Level Switches & Level Scanner (First to Third Field) as applicable	BHEL-RANIPET	BHEL-RANIPET	BHEL-RANIPET	BHEL-RANIPET/ *PS-Region	AHP EPC bidder scope includes. 1.Cable & Cabling from Junction Box/ ESP MCC to AHP DCS is in the scope of bidder. IO's shall be considered by bidder in IO list. 2.Design & Supply of Control / Instrumentation Cable with all accessories for hooking of Level switch /Scanner signals from Junction Box/ ESP MCC to AHP DCS. 3.Design considering Level High & Level Scanner DI & AI signals in AHP DCS IO list. 4.Design & Supply of supports for installation of cable trays mounting including layout for cable tray from Junction Box/ ESP MCC to AHP DCS.	Rev 01
14A	ESP Hopper Low Level switches Following Information and provision will be made available to Bidder: #1. BHEL Ranipet will provide height of ESP hopper at which Low level switch needs to be erected by bidder. Refer Annexure-3B for details. #2. ALI erection drawing for ESP hopper 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 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.	AHP BIDDER/ #BHEL-RANIPET	AHP BIDDER	AHP BIDDER	AHP BIDDER/ *PS-Region	The detailed scope of AHP EPC bidder includes. 1.Design & Supply of Low level switches along with all mounting arrangements 2.Design & Supply of Local JB for Wiring all 2 NO/NC contacts (8 wires / 4 Pair) 3.Provision in Local JB for Hooking the Level switch signals to ESP CR / MCC 4.Design for Complete Power supply & Distribution from AHP. 5.Design & Supply of Power, Control / Instrumentation Cable with all accessories for hooking of Level switch signals from Instrument to AHP DCS. 6.Design considering Level Low signals in AHP DCS IO list. 7.Design & Supply of supports for installation of instrument /controller / cable trays mounting including layout for cable tray. 8.Installation, Testing & Commissioning at site.	Rev 01
15	APH/ECO/DUCT/SCR Hopper High & Low Level switches and Level Transmitters As applicable Following Information and provision will be made available to Bidder: #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. #2. Level switch erection drawing for Hopper shall be provided by BHEL Trichy, which shall be shared to successful bidder. *3. 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.	BHEL-TRICHY#/ AHP BIDDER	BHEL-TRICHY#/ AHP BIDDER	AHP BIDDER	AHP BIDDER/ PS-Region*	The detailed scope of AHP EPC bidder includes. 1.Design & Supply of level switches & level transmitters(As applicable) along with all mounting arrangements 2.Design & Supply of Local JB for Wiring all 2 NO/NC contacts / Dual output AI signal (8 wires / 4 Pair F Type) 3.Provision in Local JB for Hooking the Level switch / transmitter signals to CCR 4.Design for Complete Power supply & Distribution from AHP. 5.Design & Supply of Power, Control / Instrumentation Cable with all accessories for hooking of Level switch / transmitter signals from Instrument to AHP DCS. 6.Design considering Level High / Level Low & Level Transmitter DI & AI signals in AHP DCS IO list. 7.Design & Supply of supports for installation of instrument /controller / cable trays mounting including layout for cable tray. 8.Installation, Testing & Commissioning at site. 9. Any measuring instruments not covered in the above list for ECO/APH/DUCT/SCR hopper are excluded from bidder scope.	Rev 01
Name of BHEL UNIT for coordination with successful bidder of various system during Engineering							
SI No	System	BHEL-Unit					
A	Plot Plan with Switchgear location, cable routing, earthing, illumination	BHEL-ISG/BHEL PEM					
B	Electrical and C&I system other than below listed	BHEL-ISG					
1	Design and integration of 6.6KV and 11KV system along with upstream breaker interface	BHEL-PEM/ BHEL-BHOPAL					
2	DCS, VMS, UPS, 24V DC System	BHEL-EDN					
3	CCVM System	BHEL-EDN					
4	PA System	BHEL-PEM					
5	Roof Top Solar System	BHEL-SBD/Rudrapur					
6	HT Motors for Water and Slurry Pump	BHEL-BHOPAL					
7	ESP Hopper Level	BHEL-RANIPET					
8	APH/ECO/DUCT/SCR Hopper Level	BHEL-TRICHY					
9	Fire Fighting and FDA system	BHEL-PE&SD					



1532.37(E)
2002.53(N)

AHP bidder to consider 4 nos 600W cable trays for BHEL other package in the AHP pipe rack. (supply of Tray is not in bidders scope)

