Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017 for the work of "EPC package for Ash Handling Plant at Singrauli STPP Stage-III (2X800 MW)".

A) Modification in PRE-QUALIFYING REQUIREMENTS (PQR): Some clauses of existing PRE-QUALIFYING REQUIREMENTS (PQR) (Annexure – 1) of NIT are **revised** as mentioned below;

Sl. No.	PQR Clause No.	Existing clause in Tender	Revised clause
1	**A.1 a)**	The Bidder should be supplier of Ash Handling System (s) and should have executed Ash Handling System (s) involving design, engineering, manufacturing/ got manufactured, supply, erection/ supervised erection and commissioning/ supervised commissioning for: - **a) Wet Bottom Ash handling system** comprising either a jet pump system in conjunction with water impounded Bottom Ash Hopper or a submerged Scraper Chain Conveyor system designed for the following conveying capacities for pulverized coal fired boilers:	The Bidder should be supplier of Ash Handling System (s) and should have executed Ash Handling System (s) involving design, engineering, manufacturing/ got manufactured, supply, erection/ supervised erection and commissioning/ supervised commissioning for: - **a) Wet Bottom Ash handling system** comprising either a jet pump system in conjunction with water impounded Bottom Ash Hopper or a submerged Scraper Chain Conveyor system designed for the following conveying capacities for Coal/Lignite fired boilers: .....
2	**Notes to Clause no. A.1, Sl. No. ii)**	ii). The activity of design and engineering under A.1 (a), (b), (c) & (d) should have been carried out by the bidder and not through any external design agency/agencies.	ii). The activity of design and engineering under A.1 (a), (b), (c) & (d) should have been carried out by the bidder.
3	**B**	**For Civil:** **Bidder shall fulfil either B.1 or B.2 in last Ten Years from the latest date of bid submission;** **B.1** Bidder should have executed one complete civil works of Ash Handling Plant/Coal Handling Plant in a Coal based/Lignite based power plant **OR**	**For Civil:** **Bidder shall fulfil either "B.1" OR "B.2.1 (a) & B.2.2" OR "B.2.1 (b) and B 2.2" in last Ten Years from the latest date of bid submission;** **B.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. **B.2.1 (a)** Bidder should Have Executed 9,185 Cum of RCC Quantities within a period of Twelve Consecutive months in one running/complete contract.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	PQR Clause No.	Existing clause in Tender	Revised clause
		B.2 Bidder should have executed One civil works comprising of at least one RCC Silo of at least 24 mts height OR Shell of one RCC Chimney up to 16 mts height OR Shell of one NDCT up to at least 16 mts height OR "any other RCC structure up to 32 mts height using Slip-Form/Jump-Form Technique" in a running/completed contract.	**B.2.1 (b)** Bidder should Have Executed 13,776 Cum of RCC Quantities within a period of Twelve Consecutive months in Cumulative of two running/complete contract. **B.2.2** Bidder should have executed one "RCC Silo of at least 21 mts height" OR "Shell of one RCC Chimney up to at least 14 mts height" OR "Shell of one NDCT up to at least 14 mts height" OR "any other RCC structure up to at least 28 mts height using Slip-Form/ Jump-Form Technique" in a running/completed contract.
4	**C**	**For Structural:** **Bidder shall fulfil either C.1 or C.2 in last Ten Years from the latest date of bid submission;** **C.1** "Bidder should have executed one complete AHP structure/ CHP Structure/ Mill Bunker/ Boiler/ Power House of one unit of rating >190 MW" "Executed" means the following: - For AHP Structure/ CHP structure / Mill bunker – Coal firing of the unit - For Boiler- Boiler Light -up - For Power House - synchronization of unit **OR** **C.2** Bidder Should have executed Structural Erection Works of 5000 MT in Single Work order in any Thermal Power Plant or Industrial Plant.	**For Structural:** **Bidder shall fulfil either "C.1" OR "C.2" OR "C.3" in last Ten Years from the latest date of bid submission;** **C.1** For Structural works of Ash Handling Plant, Bidder should have executed Ash Handling Plant of 500 MW or higher capacity Coal based/Lignite based power plant. **C.2 a)** Bidder Should have executed Structural Fabrication and Erection Works of 2560 MT within a period of Twelve Consecutive months in one running/complete contract OR **C.2 b)** Bidder Should have executed Structural Fabrication and Erection Works of 3840 MT within a period of Twelve Consecutive months in cumulative of two running/complete contract. OR **C.2 c)** Mill Bunker of At least one Unit 190 MW and above. **C.3** Executed Boiler for At least on unit of 190 MW and above capacity consisting of structures and Pressure parts (of the same unit as standalone Bidder)

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	PQR Clause No.	Existing clause in Tender	Revised clause
5	D	**SUB QUALIFICATION REQUIREMENT:** Bidder shall submit a confirmation/ declaration for Sub PQR Clauses 6.1 to 6.3 of Chapter – 6 of TCC towards SUB QUALIFICATION REQUIREMENT of Ash Slurry Disposal Pumps, Design and all other Items/Equipments required for the completion of the package along with bidding documents in Annexure - 20.	**SUB QUALIFICATION REQUIREMENT:** Bidder shall submit a confirmation/ declaration for Sub PQR Clauses 6.1 to 6.3 of Chapter – 6 of TCC towards SUB QUALIFICATION REQUIREMENT of Ash Slurry Disposal Pumps, Design and all other Items/Equipments required for the completion of the package along with bidding documents in Annexure - 20. Note: Further, bidder to provide a declaration regarding Sourcing of the Systems Related to Completion of the Ash Handling System of 1X800 MW SIPAT Project in Annexure- 20-A (ATTACHED ALONG WITH THIS CORRIGENDUM).

B) Modification in TECHNICAL CONDITIONS OF CONTRACT (TCC): Some clauses of existing TCC are revised as mentioned below;

Sl. No.	TCC Clause No.	Existing clause in Tender	Revised clause
1	3.6.4	**Miscellaneous Equipment** Apart from the main ash handling system, there are many other auxiliary system/equipment like Pit less type Ash weigh bridge (Road + Rail), Air conditioning system for complete ash handling system including road & rail weigh bridge control rooms in AHP area, Complete ventilation system for AHP, Elevator at Ash Silo complex, Dewatering Bin area and Ash classification area, Electric & Manual Hoists, Chain Pulley blocks, Cranes, Cooling water, Service water & Potable water distribution within the AHP areas from the terminal points (As defined elsewhere) etc. are to be provided by bidder as per the NIT specification. Bidder to note that any other items/equipment as required for completion of the ash handling system shall also be considered in the scope of supply of the bidder. Bidder to note that this package is on EPC basis for complete Ash handling system. All the items apart from specifically excluded (If any) under exclusion section in this specification for AHP are to be considered in the bidder's scope.	**Miscellaneous Equipment** Apart from the main ash handling system, there are many other auxiliary system/equipment like Pit less type Ash weigh bridge (Road + Rail), Air conditioning system for complete ash handling system including road & rail weigh bridge control rooms in AHP area, Complete ventilation system for AHP, Elevator in Ash Handling System as per specification, Electric & Manual Hoists, Chain Pulley blocks, Cranes, Cooling water, Service water & Potable water distribution within the AHP areas from the terminal points (As defined elsewhere) etc. are to be provided by bidder as per the NIT specification. Bidder to note that any other items/equipment as required for completion of the ash handling system shall also be considered in the scope of supply of the bidder. Bidder to note that this package is on EPC basis for complete Ash handling system. All the items apart from specifically excluded (If any) under exclusion section in this specification for AHP are to be considered in the bidder's scope. Bidder may raise pre-bid queries for

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	TCC Clause No.	Existing clause in Tender	Revised clause
		Bidder may raise pre-bid queries for scope clarity during the pre-bid meeting and afterwards after award of the contract any other interpretation shall not be entertained, which are not in line with the intent of the specification/ BHEL's interpretation.	scope clarity during the pre-bid meeting and afterwards after award of the contract any other interpretation shall not be entertained, which are not in line with the intent of the specification/ BHEL's interpretation.
2	3.14	The PT sludge to the slurry sump will be approx. 135-185 m3/hr. However, there shall be make up provision to the slurry sump and margin in the water pump considering the case of no sludge from PT plant.	PT plant sludge discharge from the PT Plant Clarifiers to be considered as 90 cum/hr (Tentative) on continuous basis. However, there shall be make up provision to the slurry sump and margin in the water pump considering the case of no sludge from PT plant.
3	3.38	Implementation of Smart project Management system shall as per NTPC Specification.	**Void**
4	3.69	Bidder to note that, for the purpose of customer conditions which requires item/component (such as DDMIS, VMS) of same make to be used across various packages/system, Bidder shall mandatorily procure the same from BHEL. With respect to Main Plant DDMIS interface with PLC/Microprocessor Panel/Profibus COMM/Local Control Panels the interface with reference to the PLC side Gateway/ LIU/ Profibus Controller will be provided by the bidder and on the DCS side shall be provide by BHEL.	Bidder to note that, for the purpose of customer conditions which requires item/component of same make to be used across various packages/system, Bidder shall mandatorily procure the same from BHEL.
5	12.2	Civil and Structural works outside plant boundary for Ash slurry disposal system. however, design, engineering of ash slurry disposal system up to ash dyke including garlanding is part of the scope of bidder including topography survey.	Civil and Structural works outside plant boundary for Ash slurry disposal system. however Mechanical, Civil & Structural design, engineering of ash slurry pipe disposal system up to ash dyke including garlanding is part of the scope of bidder which also includes topography survey for complete corridor including ash dyke area.
6	12.3	New Clause Added	Supply of all HT motors (except for compressors, if applicable) are excluded from bidder's scope as HT motors will be free issue to bidder by BHEL, however its E&C alignment with drive system (as applicable) shall be in bidder' scope.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	TCC Clause No.	Existing clause in Tender	Revised clause
7	12.4	New Clause Added	Supply of DCS System along with HMI and VMS for the AHP System is excluded from the bidder's Scope.
8	16.0	ANNEXURE-3: Electrical and C&I scope Matrix	**Annexure-3 (Rev-01):** Electrical & C&I Scope Matrix **(attached along with this corrigendum)**
9	16.0	New Annexure Added	**Annexure-20A:** DECLARATION REGARDING SOURCING OF THE SYSTEMS RELATED TO COMPLETION OF THE ASH HANDLING SYSTEM OF 1X800 MW SIPAT PROJECT **(attached along with this corrigendum)**

C) Some of the Bidders had asked queries in the published tender specification. The clarifications issued by BHEL are as below;

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
1	Technical Conditions of Contract (TCC), Chapter-IV, Time Schedule, Clause no 4.2 (1)	Schedule of important activities	The clause currently states that basic engineering is envisaged to be completed within 1.5 months. We request an amendment to extend the basic engineering period to 3 months. However, we agree that the total project completion period remains 33 months.	Tender Conditions Shall Prevail
2	Technical Conditions of Contract (TCC), Chapter-VII, Terms of payment and other Commercial terms, Clause no 7.1	Payment Terms	As per the clause, no advance payment is envisaged for supply, erection, civil, and structural work. We request that you kindly provide a 10% advance payment against an Advance Bank Guarantee.	Tender Conditions Shall Prevail

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
3	TCC Chapter – III: Scope of Works, clause no. 3.6.2, pg 16 of 89 sub-clause 1 to 6	**The following points also to be noted by bidder:** various types of water availability	Please furnish the basis for the specified amount of water available for AHP as the same seems to be on the lower side considering 2 disposal lines in operation for BA and FA. Moreover, the cooling water quantity does not include the water required for After Coolers which are the major consumers of cooling water. We request you to check your requirement and revise the water quantities.	Checked and found in order. Bidder to follow NIT specification.
4	TCC Chapter – III: Scope of Works, clause no. 3.14, pg 17 of 89	The PT sludge to the slurry sump will be approx. **135-185** Cu.M/Hr.	Please confirm that this sludge will be fed to Combined Ash Slurry Sump only by BHEL and the Combined Ash Slurry Pump is to be sized accordingly. Please also Check the amount of sludge mentioned as 135 – 185 Cu.M/Hr which seems to be even more than that for 2 units running. We request you to kindly provide continuous and intermittent quantities separately as in case of other projects. This will help in reducing the disposal line flows as intermittent	PT plant sludge discharge from the PT Plant Clarifiers to be considered as 90 cum/hr (Tentative) on continuous basis. Refer R-00 FGD Waste Water Handling-NTPC Sipat Stage-III 1x800 MW issued along with corrigendum. Continuous effluent is from PT plant and FGD waste water which are already furnished. Other effluent from CPU, DM Npit, ESP/SG wash water etc will be intermittent and shall be furnished during detailed engg.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			quantities is not to be considered in sizing of the slurry pump. Moreover, please let us know where the sludge will be routed when combined ash slurry pumps are not in operation.	
5	TCC Chapter – III: Scope of Works, clause no. 13.1.3.iii), pg 68 of 89	BHEL shall use the AHP pipe rack/Pedestal	Please provide us the spacing, size and loading of the pipes and cable racks of other packages to be considered on AHP pipe racks to enable us consider the same in our pipe rack. Similarly please identify and furnish details pipe racks in bidder scope.	Bidder to refer drawing no 8003-001-301-POC-F-001-02-PIPE CUM CABLE RACK AHP_PEM PIPES OVER PIPE RACK (003) issued along with this corrigendum. Further, Bidder to note that this is EPC bid and all the pipe racks/pedestals as required for AHP shall be in bidder's scope.
6	SLD xxxx-001-POM-A-025 Rev. C	Jet pump discharge from BA Hopper is shown to BA Slurry Sump	Please check and confirm, that the Jet pump discharge can be pumped directly to the Combined Ash Slurry Sump also by providing necessary cyld. Optd. Valves (12 nos. per unit). This is required as the BA slurry PH and Combined Ash Slurry PH are located adjacent to each other and the BA Slurry Pump which is common for pumping BA slurry to Combined Ash Slurry Sump and Hydrobin will not	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			be able to work considering the distance and the specified minimum slurry line velocity.	
7	SLD xxxx-001-POM-A-025 Rev. C	BA slurry transportation pumps discharge to Hydrobin.	Please check, the BA slurry transportation is shown only to Hydrobin. Please confirm if it is correct.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
8	Plot Plan (GLP) PE-DG-520-100-M001	Main Silos on railway line	Please note that the area where the Main silos are located has overhead electrified line. Please confirm that the railway line and electric line will be removed by BHEL before we begin the silo works. Moreover, the railway line is existing and the plot plan does not show the same.	Refer NTPC issued document "Employer's response to Typical bidder's queries on section VI technical specification (Clarification 01 &02).
9	SLD xxxx-001-POM-A-028 Rev. C and Sub-section-IIA-16, Page 7 of 18, clause no. 1.01.06 b) iii)	Intermediate silo unloading	Six (6) feeder Ejectors are shown below the Intermediate silos. Please confirm that out of 6, 3 will be working and 3 standby to cater to 1 unit ash generation to dispose 8 hours ash generation in 6 hours. Please also check clause no. 1.01.06 b) iii) where it is mentioned 2W + 2S Feeder Ejectors. Please confirm the quantity of	Bidder to follow NIT SLFD.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			feeder ejectors to be supplied.	
10	Plot Plan (GLP) PE-DG-520-100-M001	Compressor House	Please confirm that the compressor house will be common for conveying ash from ESP to Classifier/main silo and classifier to main silo.	This is EPC bid. Bidder to decide meeting NIT specification, clarifications, amendments issued by NTPC along with its annexures.
11	Plot Plan (GLP) PE-DG-520-100-M001	Building sizes	Please confirm the minimum sizes of various buildings to be considered.	This is EPC bid. Bidder to decide meeting NIT specification, clarifications, amendments issued by NTPC along with its annexures.
12	Buildings		Please confirm the type of buildings to be designed. As the civil scope does mention the type but the same is not elaborated in the specification.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Type of the building is specified in Sec VI, Part B, Clause 7.12.00 onwards.
13	Plot Plan (GLP) PE-DG-520-100-M001	Bagging area and Main Silo utility Building along with MCC room	Please mark the location of the Bagging area, Main Silo Utility Building and MCC room proposed in the Main Silo area as the Plot plan does not show the same.	Tentative Location of Silo utility building, MCC room are already shown in the plot plan. Bagging shed is existing.
14	Slurry discharge and recovery pipe sizes		The spec is silent on the size of pipe to be considered for Combined ash Slurry Disposal and ash water recovery. Please mention the same.	This is EPC bid. Bidder to decide meeting NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
15	Plot Plan (GLP) PE-DG-520-100-M001	Railway culvert	The combined ash slurry pipes from the Combined Ash Slurry Sump to Dyke is routed on pedestals upto the plant boundary. The pipe line route has 2 road culverts and **one rail culvert (almost 110 M long)**. Please confirm the scope of the culverts, will it be by bidder or by BHEL?	This is EPC bid. No civil & structural works for AHP will be done by BHEL except which is clearly excluded in BHEL spec & scope matrix. Bidder to decide meeting NIT specification, clarifications, amendments issued by NTPC along with its annexures. Bidder may plan pipe rack over existing railway lines considering ease of execution.
16	Plot Plan (GLP) PE-DG-520-100-M001	Terminal point for disposal pipes and recovery water pipes	Please confirm that the terminal point for disposal lines and recovery water pipes is same as marked in the Plot Plan.	Bidder may refer NTPC amendment 02 to Tech spec Sec VI (Sl. No. MH-54, Page 30) for AWRS terminal point and scope. Only Civil & structural works and E&C of ash slurry disposal line is excluded beyond terminal point. Regarding engineering & supplies Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
17	SLD xxxx-001-POM-A-025 Rev. C	Slurry Sump Makeup	Please confirm if water make-up to the Slurry Sump can be taken directly from BHEL's make-up line to the Ash Water Sump.	Bidder to refer BHEL specification regarding terminal point for various water requirement.
18	Mandatory Spares	Sub-section VI, chaptor-03: Ash Handling Plant	Please confirm that the Mandatory spares specified under this chapter-03 sheet nos. 1 to 14 only are to be considered in bidder's scope. In-case any other spares are	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			required, we request you to kindly provide a consolidated list.	
19	Sub-section-IIA-16, Page 5 of 18, clause no. E a)	Six (6) nos. dewatering storage bins (3 Nos. working and 3 Nos. standby)	Please check the requirement as the SLD shows only 4 nos. (3W + 1S). Please confirm whether 6 or 4 are to be supplied.	Bidder to follow NIT SLFD.
20	Plot Plan (GLP) PE-DG-520-100-M001	Settling and surge tank, Hydrobins, Ash Water Pumphouse, compressor house, etc.	Please confirm that the bidder has the right to relocate/interchange the AHP buildings and the AHP associated equipment for better layout during detailed engineering within the area marked in the plot plan.	This is EPC bid. Bidder to decide meeting NIT specification, clarifications, amendments issued by NTPC along with its annexures in the available space shown in the plot plan for AHP.
21	Sub-section-IIA-16, Page 12 of 18, clause no. 1.01.08 a)	Three (3) streams of horizontal …..	Please confirm that the number of streams will be 3 for water impounded hopper as well as SSC. The SLD calls for 4 streams in case of water impounder hopper and 3 streams in case of SSC. Please check and confirm.	Bidder to follow NIT SLFD.
22	Sub-section-IIA-16, Page 13 of 18, clause no. 1.01.08 b)	Three (3) lengths ….MS pipeline from … slurry pumps up to Ash Dyke ……as specified and as required. **Cast Basalt pipelines along the ash slurry** …….	Please clarify where these **Cast Basalt pipelines** are to be provided.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
23	Sub-section-IIA-16, Page 13 of 18, clause no. 1.01.08 b)	The length of total ….. **39000m** (excluding fittings …..	Please let us know if bidder have to supply this pipe and associated fittings also. The specification is clear that the bidder's **scope terminates inside the plant boundary**. Please clarify the discrepancy in the specification.	Only Civil & structural works and E&C of ash slurry disposal line is excluded beyond terminal point. Regarding engineering & supplies, bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
24	Sub-section-IIA-16, Page 13 of 18, clause no. 1.01.08 e)	….. interval between two consecutive dropping points as **50 M.**	Please check the requirement of 50 M. We feel it is an error as the normal interval between 2 points as per standard practice is **200 to 250M.**	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
25	General	Instrument Air	Please confirm that supply of IA compressors and Air receivers at various locations are in BHEL scope and Not applicable for the bidders.	Requirement is clearly specified in BHEL specification. Further, Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
26	General		Please provide the terminal points for water required for Vacuum Pump sealing along with pressure.	Bidder to refer BHEL specification regarding terminal point for various water requirement.
27	Electrical, Control & Instrumentation Scope Matrix,	Supply of DCS, UPS, 24V DC system in bidders scope and bidder to procure the DCS and VMS from EDN	Please Confirm whether BHEL-EDN manufacturing VMS, as mentioned in the clause that to be supplied from BHEL-EDN	Refer Annexure-03 Rev01 issued along with this corrigendum

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
28		Supply of DCS, UPS, 24V DC system in bidders scope and bidder to procure the DCS and VMS from EDN since NTPC tender condition calls for the same make DCS, VMS etc. as that of SG, BTG	As DCS for all the BOP packages will be from BHEL-EDN, unit rates for various components can be fixed by BHEL-EDN and shared along with the replies to various clarifications, so that he Bidder can calculate the Cost for DCS. Also please share the contact details for DCS in BHEL-EDN, so that we can discuss/co-ordinate.	Refer Annexure-03 Rev01 issued along with this corrigendum
29		Contractor shall provide fixed cameras (High Definition-HD) for monitoring ash accumulation above furnace S-panel area and in bottom ash hoppers.	Please suggest the model no. & Make, if in Bidder's scope. Normally the cameras are in BHEL scope as in earlier projects.	Bidder to provide provision in bottom ash hopper for locating cameras.
30	Tools & Tackles		There are no special tools and tackles required for AHP package. Please confirm, hence confirm requirement if any.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
31	AWRS	Motorizes valves	Please let us know where the motorized valves will be located as the tapping point is mentioned to be located outside plant boundary. We belief that the Motorized valves will be located near the	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			Ash water sump. Please confirm.	
32	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 1 of 6	AHP Flow Diagram	Dewatering Bin sketch is attached considering one number sluice gate valve with enclosure and 2 numbers unloading chutes and one number connection for future with isolation knife gate valves respectively. Please confirm this arrangement.	Not acceptable. It shall have separate feed gates from dewatering bins for each discharge chutes.
33	General	-	Since there is no ash dyke shown in SLFD or plot plan, hence please confirm number of discharge point in ash dyke	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
34	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 1 of 6	AHP Flow Diagram	Bidder has considered butterfly valve AC operated in place of motorized valve for APH /AH ESP duct HP water line station. Please confirm	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
35	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter-II Facilities in the Scope of Bidder/ BHEL, Clause No. 2.3.2, Page. No. 7 of 89	Water supply for bidder's office, stores, canteen etc. A. Making the water available at single point	Water supply shall be provided by BHEL at one point for office, stores, canteen etc. Please confirm.	Bidder to Refer all the Clauses mentioned under Clause no 2.3 and 2.13 of TCC for Water Scope.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
36	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter-II Facilities in the Scope of Bidder/ BHEL, Clause No. 2.4, Page. No. 8 of 89	Lighting	Power supply for lighting work will be provided by BHEL at one point and further distribution will be in bidder scope. For construction, fabrication, office, etc area Please confirm.	Bidder to Refer all the Clauses mentioned under Clause no 2.2,2.12 of TCC for Electricity Scope.
37	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - III: Scope of Work, Clause No. 3.6.2.7., Page. No. 16 of 89	Quantity and quality of effluent/waste received from other system to ash slurry sump will be informed during detailed engineering to successful bidder. Bidder shall consider the same in ash handling system design.	a. Quantity and quality of water required for the selection of slurry pump and for water balancing. Therefore please provide the same. B. Bidder consider these water supply will be continuous supply, please confirm.	Continuous effluent is from PT plant and FGD waste water which are already furnished. Other effluent from CPU, DM Npit, ESP/SG wash water etc will be intermittent and shall be furnished during detailed engg.
38	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - III: Scope of Work, Clause No. 3.13., Page. No. 17 of 89	As required, minimum two times cleaning of all debris and ash of Bottom Ash Hopper and ECO/APH/DUCT/Eco Outlet Hoppers at the time of Boiler light up and coal synchronization is in bidder scope, whether AHP system is ready or not ready.	Cleaning of debris which is generated by bidder in their construction area only will be in bidder scope. Please confirm.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
39	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - III: Scope of Work,	The PT sludge to the slurry sump will be approx. 135-185 m3/hr. However, there shall be make up provision to the slurry sump and margin in the water pump considering the case of no sludge from PT plant.	Bidder understand that the PT sludge shall be intermittent supply not continuous. Please confirm. If not continuous, then please	PT plant sludge discharge from the PT Plant Clarifiers to be considered as 90 cum/hr (Tentative) on continuous basis.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	Clause No. 3.14., Page. No. 17 of 89		provide the duration for the same.	
40	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - III: Scope of Work, Clause No. 3.57., Page. No. 24 of 89	3D MODELLING SYSTEM All the facilities pertaining to Ash handling plant including Electrical, C&I, pipe racks and cable racks shall be made in computerized 3D modelling system as detailed in NTPC specification.	3D software name is not clear and also any specific requirement of 3D software also not clear. Please provide the same and requirements for the same.	Bidder may refer document named Annexure-6_9. Sipat_Part_C (Technical Spec, Sec-VI, Part-C, General technical requirements) for detailed information.
41	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - III: Scope of Work, Clause No. 3.104., Page. No. 40 of 89	OPERATION & MAINTENANCE (O&M): The operation and Maintenance of this Ash Handling EPC package till hand over the Ash Handling System to NTPC shall be in bidder scope. Bidder to ensure deputation of sufficient manpower for operation of the plants in shifts as per the site requirement. Bidder to note that all consumables/tool tackles /manpower required during the period of O&M, shall be included in the scope of bidder and no additional payment will be made by BHEL in this regard.	Bidder understand that O&M responsibilities of bidder is till commissioning or till commercial declearance of plant. Further will be in BHEL/end customer scope of responsibility. Please confirm.	Clause is Clear. The O&M of the Ash Handling Plant is in the Scope of Bidder till the Handing over of the System to NTPC.
42	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - XII: Exclusions, Clause No. 12.1., Page. No. 67 of 89	Execution of Bottom Ash Hopper foundation. Foundation works (including supply foundation bolts) for Bottom ash hopper is excluded from the bidder scope. However, vender should match the GA of superstructure in line with executed foundation footprint of BAH.	Bidder understand that, foundation will be developed/ constructed by BHEL based on the input location of foundation/ columns provided by Bidder or location of foundation will be provided by BHEL, bidder has to develop structure on that basis. Please clarify.	Foundation and pedestals /columns developed/ constructed by BHEL: 8003-001-163-PVC-C-0975_1 Bottom Ash Hopper GA and RC Details issued along with this corrigendum, bidder to develop structure on the basis of foundation drawings.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
43	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - XII: Exclusions, Clause No. 12.2., Page. No. 67 of 90	Civil and Structural works outside plant boundary for Ash slurry disposal system. however, design, engineering of ash slurry disposal system up to ash dyke including garlanding is part of the scope of bidder including topography survey.	Bidder understand that the supply & execution of bends, clamps, bolts, flanges, structures, culverts, hume pipes etc. including civil foundations for slurry pipe outside plant boundary is not in bidder scope. Please confirm.	Only Civil & structural works and E&C of ash slurry disposal line is excluded beyond terminal point. Regarding engineering & supplies Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
44	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - XIII: Terminal Points, Clause No. 12.2., Page. No. 67 of 89	Terminal Points	Terminal Point: 1. Tapping point for Firefighting system. 2. Terminal point for Sewarage System (If required)	Tapping Point for the Fire Fighting System and Sewarage System shall be decided during the detailed Engineering.
45	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume 1A, Chapter - XIII: Terminal Points, Clause No. 13.1.3., Page. No. 68 of 89	(ii) BHEL shall use the AHP Pipe Rack/Pedestal for laying the above- mentioned pipes for AHP Utilities. Hence, AHP bidder has to provide the space on Pipe Rack/Pedestal for these pipes. Detail of Pipes/cable trays shall be provided during detail engineering. (iii) BHEL shall use the AHP Pipe Rack/Pedestal for laying the additional utility pipe (approx. 5 nos. from 50-250 NB) for other plant Utilities. Hence, AHP bidder has to provide the space on AHP Pipe Rack/Pedestal for these pipes also. Detail of Pipes/cable trays shall be provided during detail engineering.	Bidder request BHEL to furnish the quantity, size, location of pipes and cable tray with load details for bidder reference and estimation.	Refer document no 8003-001-301-POC-F-001-02-PIPE CUM CABLE RACK AHP_PEM PIPES OVER PIPE RACK (003) issued along with this corrigendum.
46	TECHNICAL CONDITIONS OF CONTRACT (TCC), Volume	Revised drawings/docs with compliance in next revision shall be submitted maximum within 5 days along with the compliance sheet as per the attached format.	Please specify the review duration or complete iteration duration from	Bidder may refer document named Annexure-6_9. Sipat_Part_C (Technical Spec, Sec-VI, Part-C, General technical

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	1A, Chapter-XV: DRAWINGS AND DOCUMENTS SUBMISSION Tender, Clause No. 15.13. (v)., Page. No. 72 of 89		customer for schedule preparation.	requirements, Clause 8.05.00) for detailed information.
47	Scope Matrix for EPC PKG-Ash Handling Plant Sl. No./Chapter 2	(i) Service water line with isolation valve shall be terminated by BHEL at terminal points (As per BHEL Specification) at AHP buildings/ MCCs. Further distribution to the application point shall be done by Package III AHP vendor. (ii) Potable water line with isolation valve shall be terminated by BHEL at terminal points (As per BHEL Specification) at AHP buildings/ MCCs. Further distribution to the application point shall be done Package III AHP vendor. (iii) Clarified water line (For Seal water, Ash conditioners, dust suppression at silos, wash water etc) with isolation valve shall be terminated by BHEL at terminal points (As per BHEL Specification) at AHP buildings. Further distribution to the application point shall be done Package III AHP vendor. (iv) DMCW water line (For TAC, Fluid couplings) with isolation valve shall be terminated by BHEL at terminal points (As per BHEL Specification) at AHP buildings. Further distribution to the application point shall be done Package III AHP vendor. (v) Raw/CTBD Water (For Wet ASH Handling System) with isolation valve shall be terminated by BHEL at terminal points (As per BHEL Specification) at AHP buildings. Further	Isolation valves at all terminal points will be in BHEL scope except AWRS pipe valve (sr. no. (v)). Please confirm.	i), ii) & iii) Noted regarding manual isolation valve at terminal point for service water (Refer TCC/ Vol (1A), clause 13.1.3, Page 68 of 89). iv) Noted regarding manual isolation valve at terminal point for DMCW (Refer TCC/ Vol (1A), clause 13.1.3, Page 68 of 89). v) Noted regarding manual isolation valve at terminal point for raw/CTBD water (Refer TCC/ Vol (1A), clause 13.1.3, Page 68 of 89).

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
		distribution to the application point shall be done Package III AHP vendor. (v) Tapping point from existing St-II AWRS pipe (located inside plant) shall be terminated. Further distribution with isolation valve to the application point shall be done by Package III AHP vendor.		
48	Layout of Roads, Drg. no. PE-DG-520-603-C003, Rev.00		Bidder considering Single Lane Roads for all ash handling scope roads. If double lane road is required at any location please specify. Also please specify the width of single lane road.	Road layout drawing PE-DG-520-603-C003 developed from BHEL end, is attached along with this corrigendum. Tentative roads for the areas of CHP, AHP, FGD, biomass except Ash silo are marked as guidance. Bidder is expected to develop final layout of roads and drains required for AHS are to be developed and executed by bidder.
49	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.01.07., Page no. 9 of 18	(a) The fly ash coming from ESP hoppers or buffer hoppers of shall be led to a classifier silo of capacity 200 tonnes. From this silo the ash shall be further fed to the classifier. The silo shall have a provision to bypass ash without classification, directly to coarse fly ash silo/hopper. (e) The fine ash and coarse ash after classification shall be stored in RCC/ Structural steel hoppers, separate for fine ash and coarse ash respectively. The capacity of the fine ash hopper (01 No) and coarse ash hopper (02 No) shall be 250 Tonnes each. (f) Six (6) nos. (3 W + 3 S) Pump tanks/Air lock tank for each coarse ash hopper and four (4) nos. of pump tanks/air locks tank for fine ash hopper for transportation of coarse fly ash	(a) & (e) Capacity and quantity of Classifier Silo, Coarse Ash and Fine Ash Hoppers will be as per latest tender flow diagram no. XXXX-001-POM-A-029, Rev.C. (f) Outlets of Classifier silo, Coarse ash and Fine ash silos will be as per latest tender flow diagram no. XXXX-001-POM-A-029, Rev.C. (i) Quantity of aeration blowers with heaters will be as per latest tender flow diagram no. XXXX-001-POM-A-029, Rev. C.	a), e), f), i) Noted

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
		and fine fly ash respectively, to main storage silos provided for dry fly ash storage silos meant for Road and Rail loading. (i) Suitable arrangement of aeration blowers (one for all hoppers + 1 standby) for the aeration of hoppers shall be provided. For the aeration of the above ash silo no, one working + one standby aeration blower shall be provided. Each aeration blower shall be complete with dedicated heaters, valves, fluidizing pads and pipelines including supporting steel structures, insulation, silencer, filter and all other accessories.	Please Confirm.	
50	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.01.07., Page no. 10 of 18	(m) Six (6) lengths of cast iron/MS pipes (four working + two standby lines) for coarse fly ash conveying from coarse fly ash hoppers to coarse fly ash storage silos located in the fly ash silo complex. Required lengths of cast iron/MS pipes for fine fly ash conveying from Fine fly ash hoppers to Fine fly ash storage silo. Provisions shall be kept to store Coarse fly ash to fine ash Silo, if required.	Quantity of fly ash piping from classifier system to Main fly ash silo will be as per latest tender flow diagram no. XXXX-001-POM-A-029, Rev.C. Please confirm.	Noted
51	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.01.08., Page no. 10 of 18	a. Each fly ash storage silo shall have six (6) outlets, Four (4) outlets for unloading ash to rail & closed truck through rotary feeders, One (1) for unloading ash to open truck with rotary feeders and ash conditioners and One (1) blanked outlet for future use. h. Six (6) nos. Slide plate type isolation valves below each fly ash storage silos.	Quantity of outlets of Fly Ash Silos will be as per latest tender flow diagram no. XXXX-001-POM-A-028, Rev.C. Please confirm.	Noted. Bidder may refer NIT specification, clarifications, amendments issued by NTPC along with its annexures.
52	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A,	b) Three (03) lengths of combined ash slurry disposal MS pipelines from combined ash slurry pumps up to Ash dyke including garlanding at dyke end and extensions into the	Supply of bends, fixtures, elbows, gaskets, nuts, bolts, structural steel supports and	Not correct. Only Civil & structural works and E&C of ash slurry disposal line is excluded beyond terminal point.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.01.08. (b), Page no. 13 of 18	ash dyke at number of discharge points complete with basalt lined pipe bends, fixtures, elbows, gaskets, nuts, bolts, structural steel supports and other accessories as specified and as required. Cast Basalt pipelines along the ash slurry corridor shall be provided as specified and as required. For garlanding of Mine Void, MS bends shall be provided. The length of total combined Ash disposal pipelines shall be 39,000 m (excluding fittings and including branch pipes for garlanding of mine void) or the actual distance (excluding fittings) including branch pipes for garlanding of mine void, whichever is higher.	other accessories as specified and as required up to plant boundary except outside boundary will be in bidder scope.	Regarding engineering & supplies Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
53	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.01.08.(e), Page no. 13 of 18	e) Required numbers of manually operated plate valves at the slurry disposal pipeline outlets in ash dyke area as specified, considering interval between two consecutive dropping points as 50 m.	Bidder understand that supply of these valves in bidder scope. Please confirm.	Noted.
54	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.01.08.(a), Page no. 12 of 18	Three (03) streams of horizontal combined ash slurry disposal pumps complete with drive motors, variable speed hydraulic coupling for first stage pumps and fixed belt drive arrangement for subsequent stages (total three stages minimum in a series) ……	Bidder understand that 4 series of horizontal combined ash slurry disposal pumping system will be supply by bidder as per tender flow diagram no. XXXX-001-POM-A-025, Rev.C. Provisions for locating another additional Pump in series within the Pump House, for future use is not required. Please confirm.	Space provision for future pump is to be kept as per NTPC specification.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
55	Amendment 02 to Technical Specifications (Section VI) MH-49	Combined ash slurry disposal pumping system Suitable number (minimum as specified in Tender Drawing) of streams of horizontal combined ash slurry disposal pumps complete with…… Pump in series within the Pump House, for future use.		Space provision for future pump is to be kept as per NTPC specification.
56	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16 ASH HANDLING SYSTEM, Clause No. 1.02.01.02.(g), Page no. 15 of 18	(g) Sealing Water: - Sealing water for combined ash slurry pumps, vacuum pumps, clinker grinder etc. shall be met by plant service water system. Seal water discharged from vacuum pumps shall be taken to nearest pit in the ESP area/other nearby area.	Bidder understand that in case of pressure system drain pits with drain pumps near ESP area are not in bidder scope. Please confirm.	Noted.
57	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-21 SOLAR P. V., Page no. 15 of 18	The Solar Photo Voltaic (PV) installation on Rooftop of various buildings/ sheds etc…… ……..The bidder has to install the solar PV rooftop system on the buildings identified in this package based on 15 square meter area (shadow free) per kwp and the bidder shall also consider utilizing all the rooftops (Buildings) for installing solar PV project. Determination of Optimal grid connected solar PV systems for all sheds (Car parking etc.) of this package.	Bidder understand that customer will determine the locations for the installation of Rooftop PV Solar panels. And also bidder responsibility (for supply and O&M) are limited upto bidder supplied PV Solar system only. Please confirm.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
58	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-III, TERMINAL POINTS & EXCLUSIONS AND Owner's INPUT, Clause no. 1.07.00 Page no. 2 of 3	Fire Detection & Protection System: Dedicated & new fire water headers/mains (hydrant & spray) tap-off shall be taken from existing discharge headers of hydrant/spray pumps and shall be routed to Stage-III area for connection to fire water pipe network of Stage-III.	Bidder understand that the bidder will take tapping from customers fire water pipe network for their facilities from nearest location for bidder scope Fire fighting system. Please confirm.	The Fire Protection System for the total plant except for the AHP Facilities is in the Scope of BHEL. The Tap off for the AHP System alone shall be decided during detailed engineering.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
59	TECHNICAL SPECIFICATION SECTION-VI, PART-B, SUB-SECTION – G-03, LAYOUT REQUIREMENTS, Clause no. 1.09.00, Page No. 15 of 15	Bottom flange level of ESP outlet Hopper shall be at EL (+) 3.5m (Minimum). In case bidder opt for keeping the ESP Hopper O/L flange above EL (+) 3.5m, separate platform shall be provided for maintenance of ash handling equipment below ESP hopper level, with a clear headroom of 2.1m below ESP hopper flange/platform and clearance of 2.5 m (min.) shall be maintained from ESP area paving level.	As ESP hopper is not in bidder scope. Hence, bidder understand that any requirement of platform in ESP area is not in bidder scope. Please confirm.	Noted for maintenance platform required for ESP hopper. Any maintenance platform required for access to AHP equipment will be in the scope of bidder. Refer GA of ESP hoppers.
60	TECHNICAL SPECIFICATIONS SECTION-VI, PART B, SUB-SECTION: A-21, ASH HANDLING PLANT, Clause No. 4.00.00, Page no. 31 of 42	Type: a) 20 thk. Cast basalt lined MS (MS shell of 6.00 mm thick) piping for BA slurry transportation from boiler area up to slurry sump of BA slurry pump house and slurry disposal pipes within ash slurry pump house, Inside the bottom/combined ash slurry pump house and upto 6 m from the ash slurry pump house, in culverts/trenches at rail/road crossings. ERW/SAW pipes of grade Fe-410 as per API-5L Gr. B/IS:3589 (9.5 mm thick for slurry disposal pipes to from BA/Combined slurry pump house to Ash dyke.	Bidder understand that MOC of Ash slurry pipes are as follows: 1) 20 mm thk. Basalt line MS pipes including fittings for a. Jet pump discharge to sump of BA slurry transportation pump house and combined ash slurry disposal pump house. b. Coarse ash slurry Tank (below APH/duct hoppers) to sump of BA Slurry transportation pump house. c. Inside the BA slurry transportation pump house and Combined ash slurry disposal pump house upto 6 m from as slurry pump house. d. In culverts/trenches at rail/road crossings. 2) MS ERW/SAW pipes (9.5 mm thick) excluding fittings,	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			culvers/trenches at rail/road crossings. a. BA slurry transportation pump house to Dewatering/ Hydrobin bin. b. Combined ash slurry disposal pump house to dyke. Please confirm.	
61	TECHNICAL SPECIFICATIONS SECTION-VI, PART B, SUB-SECTION: A-21, ASH HANDLING PLANT, Clause No. 7.12.00, Page no. 37 of 42	C) TRANSPORT AIR/ CONVEYING AIR/CLASSIFIER AIR COMPRESSOR HOUSE	Bidder understand that Conveying Air compressors (CAC) and Transport Air Compressors (TAC) are located in common / single Compressor house. Please confirm.	This is EPC tender. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
62	TECHNICAL SPECIFICATIONS SECTION-VI, PART B, SUB-SECTION: A-21, ASH HANDLING PLANT, Clause No. 7.12.00, Page no. 37 of 42	F) GENERAL iii) Barrier of minimum 3 m height along with supports etc, shall be provided to protect vacuum pumps, etc located near ESP first field, from ash dumped from ESP hoppers.	Bidder understand that in case of pressure system (vacuum pumps not required) barrier of min. 3m height along with supports etc located near ESP first field are not in bidder scope. Please confirm.	This is EPC tender. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
63	TECHNICAL SPECIFICATIONS SECTION VI, PART-C, GENERAL TECHNICAL REQUIREMENTS, Clause No. 8.03.04.a).	DRAWINGS Further, two Licenses of the used 3D Modelling Software (One for Engineering View and One for Site View) shall be provided along with compatible Hardware for possible review and study of the Model Files being submitted by the Bidder Time to time. All software and hardware shall be supplied by bidder within 3 months of NOA. The 3D	Bidder understand that this clause is not applicable for bidder. Please confirm.	Bidder may refer document named Annexure-6_9. Sipat_Part_C (Technical Spec, Sec-VI, Part-C, General technical requirements) for detailed information.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	(iv), Page no. 16 of 119	modelling software shall preferably be the same software bidder will be using for preparation of 3D model or it shall have all editable features to edit the model supplied by bidder on time to time basis. All software provided shall necessarily include cost for perpetual license(s) for use on all the machines and an Annual maintenance contract (AMC) which shall include software upgrades as & when released by the software agency for a period of three years after warranty/ guarantee period.		
64	TECHNICAL SPECIFICATIONS SECTION-VI, Part-A, SUB-SECTION-IIA-16, ASH HANDLING SYSTEM Clause no. 01.01.05.(C).(b), Page no. 3 of 18.	b. Three (3) lengths of bottom ash slurry transportation MS pipelines with basalt lining, complete with pipe bends, fixtures, elbows, gaskets, nuts, bolts, structural steel supports and other accessories as specified and as required from (i) the bottom ash slurry transportation pumps to Dewatering Bins and from (ii) the bottom ash slurry transportation pumps to Ash slurry disposal sump.	Bidder understand that Jet pump and coarse ash pump discharge line transport ash to sump of Bottom ash slurry transportation pump house only. And further from BA slurry transportation pumps discharge line to Dewatering bins and sump of combine slurry disposal pump house. Please confirm.	Not correct. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
65	Single Line Diagram for classifier system (Pressure system), Drg. No. XXXX-001-POM-A-029, Rev.C		As per Single line diagram, bidder understand that classifier required at one coarse ash hopper only. Please confirm.	Refer NTPC issued document Sl. No. 752 of employer's response to bidder's queries on section VI technical specification (Clarification 1& 2).
66	General		Equipment support structure, maintenance platform and stair case from nearest platform below Eco., Eco. Duct, APH & duct hoppers for	Platform is available below Eco and Eco outlet duct hoppers for mounting equipment. Any other access/ maintenance platform required for bidder's equipment is in the scope of

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			APH equipment are in BHEL scope. Please confirm.	bidder. For APH & duct no platform is provided by BHEL and same to be considered by bidder in their scope of work.
67	General		Terminal point for storm drain: Can bidder will get the location and dimensions, including depth of owner's drain to plan our drainage scheme accordingly? Do bidder have one connecting location or more?	Terminal points of strom water drain is made available in drg no: 8003-001-301-POC-C-111 is attached along with this corrigendum
68	General		Is rain water harvesting compulsory for buildings? What percentage of runoff needs to be considered for RW harvesting? From roof tops and open areas?	Bidder to refer rain water harvesting given in the clause no 5.01.00. Runoff for drainage on ground shall be 0.6 and for paved areas it shall be 1.0 to be considered.
69	General		Cable trenches have to be compulsorily provided or to prevent the problem of water ingress into the cable trenches, can we go for cable spreader or cable cellar room?	Bidder to follow specification
70	General		Owner's sewerage terminal point location may be specified. If the terminal point location exceeds 50 m, can the bidder be allowed to provide a septic tank with	No septic Tanks & Soak pits are permitted.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			soak pit to locally take care of the effluent/waste as longer length of sewage disposal pipe will have flowability issues and maintenance of minimum gradient may increase the depth of vendor's drain at terminal point	
71	General		Can it be confirmed that there are no underground or old buried structures /objects at the proposed site?	Proposed site is located within the existing plant, hence bidder to assess the data of underground or old buried structures /objects at the proposed site
72	General		Kindly confirm whether geotechnical investigation needs to be done pre or post bid?	Proposed site is located within the existing plant and the borehole data and SBC to be followed is mentioned in the specification. Bidder to carry out necessary investigation if required.
73	General		Based on the soil data at Sipat, as shared with the bidder, can it be confirmed that no piling is required at the proposed AHP for any structure?	Bidder to carry out necessary investigation for confirmation.
74	General		Can it be confirmed that the extent of levelling to be carried out by the bidder is restricted to (+/-)500mm as mentioned above in the bid documents.	Bidder to carry out necessary investigation for confirmation.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
75	TECHNICAL SPECIFICATION SECTION-VI, PART-B, SUB-SECTION-D-1-5, CIVIL WORKS SALIENT FEATURES AND DESIGN CONCEPT, Clause no. 5.05.05, page no. 23 of 69		Are drain covers over drains as mentioned in cl 5.05.05 required only in silo area complex or everywhere?	Bidder to refer clauses 5.13 in addition to 5.05.05 of technical specification
76	General		It is mentioned that drains shall be provided on both sides of double lane roads and single lane roads. If the roads are sloped to one side in cross section, do we need to provide drains on both sides or one drain towards the end of slope suffice?	Drains shall be provided on both sides of the road irrespective of the slope.
77	General		Can it be confirmed that the fencing requirement is only for silo area complex?	As per clause no 5.05.05: The Silo area complex shall be fenced with chain linked fencing, if placed inside the plant boundary and shall be confined with boundary wall if placed outside plant boundary. Bidder to consider accordingly as per location.
78	TECHNICAL SPECIFICATION SECTION-VI, PART-B, SUB-SECTION-D-1-5, CIVIL WORKS SALIENT FEATURES AND	All ash handling system pipe crossings with railway lines including MGR lines shall be laid by method accepted by concerned railway authorities for existing rail lines & by cast in situ RCC box culvert for future envisaged rail lines. the railway track crossings are to be designed in accordance with railway standard/RDSO	All necessary approvals from the concerned railway authorities will be in BHEL scope. please confirm.	All necessary approvals from the concerned railway authorities shall be obtained by the bidder, without any financial implications to the owner.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	DESIGN CONCEPT, Clause no. 5.05.09, page no. 24 of 69	guidelines and all necessary approvals from the concerned railway authorities shall be obtained by the bidder, without any financial implications to the owner.		
79	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S.No. : 01)	Only 2 No of 11KV Uncabled Feeder shall be provided by BHEL to bidder for AHP application at one location as mentioned below: Location: Main Plant MV Switchgear room	we understand that 11KV VCB panel is a new panel where there will be no any modification.	Scope Matrix is clear. Bidder to follow the specification. Only 2 No of 11KV Uncabled Feeder shall be provided by BHEL at Main Plant MV Switchgear room to bidder for AHP application at one location. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum
80	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S.No. : 01)	Only 2 No of 11KV Uncabled Feeder shall be provided by BHEL to bidder for AHP application at one location as mentioned below: Location: Main Plant MV Switchgear room	please confirm the actual length of Cable. If any cable differential CT to be considered in our supplied feeder	Bidder may refer the Plot plan for the length of the cable. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum
81	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S.No. : 01)	Maximum MVA Available:13.995 MVA at 11 kV	we understand that 11/3.3KV a Power transformer will be considered by AHP bidder. And also a 3.3KV HT panel in AHP bidder scope	Scope Matrix is clear. Bidder to follow the specification. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum
82	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S.No. : 01)	Bidder shall provide min. 2 Nos. uncabled feeders each of 250A, 100A, 63A, 32A, 16A rating (1 No in I/C-1 and 1 No in I/C-2) in all 415V PMCC boards supplied by Bidder for BHEL use. These loads also shall be considered by bidder for transformer sizing (Total BHEL load of 100 KVA to be considered for transformer sizing).	Considering all feeder total KVA rating will be considered as 100KVA in AHP transformer load	Scope Matrix is clear. Bidder to follow the specification. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
83	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S. No.: 01)	3.3 kV feeders are required for feeding APH ESP wash pump drives from 3.3kV AHP Switchboard. The drives are located near Service/ Clarified water PH are	confirm the tentative rating of load	Tentative rating of each load shall be approx. 350kW. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum
84	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S.No. : 01)	Terminal point for cable trestle: For 11kV feeder: Adequate nos. of trays from Main plant MV Swgr room to C row Column 11 or Column 13 depending upon the location of bidder's 11 kV switchboard shall be provided for 11kV cable (bidder's scope). After that space shall be provided in BHEL cable trestle upto nearest planned BHEL cable trestle to AHP bidder facility for cables in bidder scope. Trays and support for this shall be in Bidder's scope. Cable laying is also bidders scope for bidder supplied equipments.	Bidder understand that only cable trays in AHP bidder scope rest all primary support and rack shall be in purchaser scope.	Requirement is already clear. Only space shall be provided in BHEL's cable trestle upto nearest available AHP Bidder's facility (cable rack/building/structure). Cable trays & supports shall be in bidder scope. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum
85	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX, (S.No. : 01)	For 3.3kV feeder: Adequate nos. of trays with support from bidder's scope 3.3kV switchboard up to bidder's rack planned nearest to respective BHEL 3.3kV load facility shall be provided by Bidder for Cables in BHEL scope	Bidder understand that only cable trays in AHP bidder scope rest all primary support and rack shall be in purchaser scope.	From AHP 3.3KV Switchboard located in bidder's AHP MCC building, few cables shall be laid by BHEL for other package. Bidder shall provide Cable trays, supports etc for these cables inside AHP MCC building & bidder's cable rack upto nearest planned BHEL facility (cable rack/ building/ structure). Bidder to refer Annexure-03 Rev01 issued along with this corrigendum
86	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION	For estimation, the bidder may take 10 % of the total capacity of the Solar Plant Defined for the SIPAT 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	please confirm the load and where solar system will be installed	Bidder to follow NTPC Specifications. Bidder to refer Annexure-03 Rev01 issued along with this corrigendum

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	SCOPE MATRIX, (S.No.: 04)			
87	Annexure-3_Electrical, C and I scope matrix (S.No. : 05)	AHP system DCS, Control desks, monitors, annuciators, mimic panels, large displays & UPS/N-UPS power distribution board for DCS	We propose to exclude DCS (along with FF field hardware) from ISGEC scope as it is EDN supplied item	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
88	Annexure-3_Electrical, C and I scope matrix (S.No. : 05)	AHP system VMS including sensors and junction boxes	We propose to exclude VMS from ISGEC scope as it is EDN supplied item	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
89	Annexure-3_Electrical, C and I scope matrix (S.No. : 02)	Interface with upstream breaker to DCS.	We propose to exclude this from ISGEC scope as it is EDN supplied item. Also AHP DCS to Main plant DCS interfacing, type of interfacing including material supply to be excluded from ISGEC scope	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
90	Annexure-3_Electrical, C and I scope matrix (S.No. : 05)	Common 24VDC charger will be considered for AHP DCS & FDPS	We propose to exclude this from ISGEC scope as it is EDN supplied item	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
91	Section-VI, Part-A, Annexure-C to IIC, 3.00.00	CCTV for Furnace & BAH (IP based through L3 switch) 06 Nos. fixed cameras	As of now there is no any proven system available for bed ash hopper video monitoring. So we propose to exclude this from ISGEC scope.	Bidder to follow the specification.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
92	Annexure-3_Electrical, C and I scope matrix (S.No. : 05)	230 VAC UPS for AHP system related equipments & instruments	We propose to exclude this from ISGEC scope as it is EDN supplied item	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
93	Annexure-3_Electrical, C and I scope matrix (S.No. : 10)	Standalone PLC & instruments for HCSD system equipments	Type of Instruments & PLC system shall be as per HCSD OEM Standard	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Bidder to follow the specification.
94	Annexure-3_Electrical, C and I scope matrix (S.No. : 08)	ESP Hopper Level switches / scanners	Level switch, Junction box & branch cabling upto JB is in BHEL Scope. Main cabling from JB/ESP MCC to AHP DCS is in ISGEC scope	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
95	Annexure-3_Electrical, C and I scope matrix (S.No. : 09)	APH / Eco. / Duct / SCR Hopper Level switches / scanners	Level switch, Junction box & branch cabling upto JB is in BHEL Scope. Main cabling from JB/ESP MCC to AHP DCS is in ISGEC scope	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Scope Matrix is clear. Bidder to follow the specification.
96	Annexure-3_Electrical, C and I scope matrix (S.No. : 10)	All PT/DP type transmitters	Foundation Fieldbus protocol will be considered for transmitters connecting to AHP DCS	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Bidder to follow the specification.
97	Annexure-3_Electrical, C and I scope matrix (S.No. : 10)	All electrical operated valves / actuators	Considering limited quantity of Electrical operated actuators, hardwired type interfacing will be considered for the same.	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Bidder to follow the specification.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
98	Annexure-3_Electrical, C and I scope matrix (S.No. : 10)	All Pneumatic regulating type valves / actuators	4-20mA Hart protocol will be considered	Bidder to refer Annexure-3 Rev01 issued along with this corrigendum, Bidder to follow the specification.
99	Technical Specification Section-VI, Part-A, Sub-Section-VI Chapter - 03 Ash Handling Plant	Mandatory Spares List for Ash Handling Plant	We understand that the Mandatory Spares for the equipment's/ items shall be taken care by M/s BHEL. Please confirm	Please refer TCC/ Vol (1A), clause 3.55, Page 24 of 89.
100	PE-DG-520-100-M001	Plot Plan (GLP) (Rev-01)	As per the Plot plan the pipe rack is shown in front of ESP, Classifier silo, main fly ash silo & at various locations marked for ash handling system. We wish to clarify that We have not considered any other pipes except Ash Handling pipes in AHP Pipe rack. Please confirm if there are any other pipe which are to be considered for Load and sizing calculation.	Piperack indicated in the plot plan is indicative only. Whatever is required for complete AHP is to be considered by bidder in their scope. Further, regarding other's pipes & cable trays on bidder's pipe rack, Please refer this corrigendum.
101	PE-DG-520-603-C003	Layouts of Road	As per the Layout of roads, various approach road are marked for various facilities like AHP, CHP, GHP area. Please confirm all the approach roads marked in the layout are in AHP vendor scope.	Road layout drawing PE-DG-520-603-C003 developed from BHEL end is issued along with this corrigendum. Tentative roads for the areas of CHP, AHP, FGD, biomass except Ash silo are marked as guidance. Bidder is expected to develop final layout of roads and

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
				drains required for AHS are to be developed and executed by bidder.
102	XXXX-001-POM-A-028	Single Line Flow Diagram for Fly Ash Handling System (Pressure System) (Rev-C)	As per the reference flow diagram, dense phase pneumatic conveying systems are also specified as an optional specification for ESP hoppers, with a typical sketch showing an ash conveying vessel equipped with inlet material feed valves and outlet material discharge valves. We wish to clarify that the ash conveying vessel design is proprietary and varies among ash handling suppliers. Our design excludes the discharge valve, vent valve (4th field onward), equalizer valve, and level switch in the conveying vessel. Instead, a level switch will be provided in the ESP ash hopper as per system requirements. A pressure switch will be installed in the pneumatic panel of the conveying vessel to monitor vessel and line pressure, consistent with our proven	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			design and successfully commissioned systems for similar applications.	
103	Technical Specification Section-VI, Part-A, Sub-Section-IIA-21	Solar P.V.	As per the clause, a one-year Operation and Maintenance (O&M) period is specified for the ash handling package. We request you to kindly delete this O&M requirement from the package, as the balance ash handling package is not within the bidder's scope.	Tender Conditions shall Prevail.
104	Amendment no. (02) Technical Specification Section - VI	MH-57	As per the amendment the spool pieces for the ash disposal pipe and accessories is marked as deleted. Please confirm	Noted regarding wet ash slurry disposal lines.
105	Technical Specification Section-VI, Part-B, Sub-Section-A-14	Water Treatment Plant	As per the clause, the sludge shall be transferred to the ash slurry tank/sump by means of sludge transfer pumps. Please specify the quantity & Details of sludge to be discharged to the ash slurry sump, as well as any other types of sludge that are to be directed to the ash slurry sump for pump sizing.	PT plant sludge discharge from the PT Plant Clarifiers to be considered as 90 cum/hr (Tentative) on continuous basis. Other like FGD waste water which are already furnished. Other effluent from CPU, DM Npit, ESP/SG wash water etc will be intermittent and shall be furnished during detailed engg.
106	Amendment no. (08) Technical Specification Section - VI	MH-63 & MH-64	As per the amendment Design, engineering & supply of complete ash slurry disposal system up to ash	Noted.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			dyke including garlanding and erection & commissioning of ash slurry disposal system within plant boundary is in bidder's scope. As per amendment MH-64 Erection & commissioning of Ash slurry piping system outside plant boundary is in owner scope i.e exclusion from AHP supplier. Bidder understand that complete supply of ash slurry system upto ash dyke is in bidder scope however Erection, commissioning & civil works is only limited upto plant boundary. please confirm Bidder understanding	
107	Technical Specification Section-VI, Part-A, Sub-Section-IIA-16	wagon loading system	In this regard, we understand/ wish to inform you that: BOXN Type Wagons are open Type and only conditioned Fly Ash can be loaded. Hence it would not be applicable as wet unloading into wagon is not envisaged. Please confirm	It shall be discussed and finalized (Subjected to NTPC's acceptance) during detailed engineering.
108	Scope Matrix for EPC PKG-Ash Handling Plant	Ending (B)	As per the remarks (B) Ending point: (iv) Outlet of bagging conveyors to Bagging shed for	Refer Sl. No. MH-04 B of NTPC amendment 2B for update on bagging system requirement.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			storage, Retrieval of fly ash bags from Bagging shed to Trucks and direct loading of fly ash bags from bagging machine to the trucks is given. However as per amendment MH-42 Mechanized transportation of bags & storage shed has been deleted.	
109	Scope Matrix for EPC PKG-Ash Handling Plant	Ending (B)	As per the remarks (B) Ending point: (ii) For Wet Fly Ash/Combined Ash (Boiler, Eco, Eco outlet duct, ESP, APH, AH-ESP Duct) – Through lean phase slurry system and slurry pipes shall be terminated near plant boundary (approx. 5 meter inside plant boundary) However as per MH - 63 Design, engineering & supply of complete ash slurry disposal system up to ash dyke including garlanding is given please confirm the supply of lean slurry pipes termination point.	Only Civil & structural works and E&C of ash slurry disposal line is excluded beyond terminal point. Regarding engineering & supplies Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
110	General Query	Main Plant Cross-Section	We request the General Arrangement (GA) and elevation drawings for the	Shall be shared with successful bidder.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			ECO, ECO DUCT, APH, and DUCT hoppers, showing their positions relative to the nearest platform. Additionally, please provide the expansion details for each hopper.	
111	Amendment MH - 32	(b)	As per the clause in the reference document, the segregated fine ash after classification is specified to have a maximum retention of 12%. We request you to kindly allow a maximum retention of up to 15% for the segregated fine ash.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
112	GCC	EMD/Insurance Surety Bonds	As per the clause, we shall submit an EMD amount of Rs. 50,00,000/- as an Insurance Surety Bond. Please confirm.	Noted.
113	TCC, Clause 3.14	The PT sludge to the slurry sump will be approx. 135-185 m3/hr	Please Clarify if the Sludge is to be directed to BA Slurry Sump Transportation Sump or Combined Ash Slurry (CAS) Sump.	As per NIT SLFD, it is to be conveyed to Combined ash slurry sump. PT plant sludge discharge from the PT Plant Clarifiers to be considered as 90 cum/hr (Tentative) on continuous basis.
114	Single Line Flow Diagram - BAHS (Jetpump System)	Clarified Sludge (from BAOF STST), Drain from the plant, any other sludge, FGD Waste Water, FGD Drain	It is prudent that All Sludge & drain water should be directed to the BA transportation sump instead of CAS sump during normal conditions. Only during	Noted. Further, It shall be discussed and finalized (Subjected to NTPC's acceptance) during detailed engineering.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			emergency conditions (when FA slurry is conveyed to CAS Sump or Bottom & Eco Ash is directed to CAS sump) all sludges should be directed to CAS sump. This will keep the requirement of Make-up water to minimum. Please confirm.	
115	Single Line Flow Diagram - BAHS (Jetpump System)	Economiser Water Pump (1W+1SB): Eco / APH / Duct Hoppers are provided water from same pump.	We recommend separate Water pumps for Economiser Hopper water requirement and APH/Duct Hopper water requirement. Economiser water requirement is continuous whereas the APH/Duct water requirement is intermittent. Please Confirm	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
116	Single Line Flow Diagram - BAHS (Jetpump System)		Please share a clear Flow Diagrams, as some of the words are not legible even when zoomed. Word need to be clear even when we take print on A2Size. Please provide for clarity.	Document available with BHEL from NTPC is only shared in the NIT, which is readable.
117	Single Line Flow Diagram - BAHS (Jetpump System)	BA seal water Pump (1W+1SB): Seal Water to BA Slurry Transportation Pump, Clinker Grinder, BAOF Transfer Pump of Unit	Please clarify whether these pumps are common for Both	Bidder to note that subject tender is for one unit (1x800 MW) only.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			Units and where are these located.	
118	Sub-Section-IIA-16, Ash Handling System, Clause No 1.02.00	HP and LP Seal water pumps (one working + one standby each) for meeting the seal water requirement of Combined slurry disposal pumps and drain water pump of Combined slurry pump house, etc. These pumps shall be located in the Combined ash slurry disposal pump house.	Are these LP Seal Water pumps desperate from BA Seal water pump.	Specification requirement is clear. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
119		**3D Modelling: AHP Vendor –** Complete AHP model including Civil, structural, mechanical, electrical, C&I in E3D software All Structures- RC & Steel Structure in Tekla.	In order for us to provide BHEL this requirement, it is imperative that BHEL shares the following input details for us to process the BHEL's requirement: i) Existing plant 3D in stp format. ii) New boiler to ESP with supporting structure STP format and Native file.	Bidder to Quote with the available inputs provided along with the tender document.
120		**Roads & Drains: AHP Vendor –** The scope of road & drain shall cover for the entire buildings/facilities and Drainage system shall be designed considering the drainage network of entire plant. Scope of road work include giving access to all facilities covered under AHP scope from road which is being executed by BHEL.	We assume that Roads & Drains in and around AHP Building are only in our scope which will give access to all the AHS buildings with main Roads & Drains of the Plant that are in scope of Purchaser (BHEL). Please Confirm.	Road layout drawing PE-DG-520-603-C003 developed from BHEL end, is issued along with this corrigendum. Tentative roads for the areas of CHP, AHP, FGD, biomass except Ash silo are marked as guidance. Bidder is expected to develop final layout of roads and drains required for AHS are to be developed and executed by bidder.
121		**Sewerage system: AHP Vendor –**	We shall share with BHEL the tentative location of sewerage pit from our AHP	STP layout is under development and the same shall be shared to successful bidder during detail engineering, and

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
		Sewarage system shall be connected to the collection/ lifting pit. Collection pit/Lifting pit will be constructed by BHEL.	building to BHEL for its review/ approval.	bidder to consider based on their experience
122	TS Section-VI, Part-B, Sub Section-A-01, Equipment Sizing Criteria, Clause 3.1.4.0	Instrument Air Compressor	Please Confirm whether Instrument Air Compressors are to be considered in Our Scope or They are in scope of BHEL and we need to submit Instrument Air requirement for total AHS requirement.	Please refer TCC/ Vol (1A), clause 3.6.1, Page 15 of 89 about the requirement
123		General Layout Plan (PE-DG-520-100-M001 Rev1)	Please share the Autocad format as the buildings are not viewable on blow-up. Also the List of building & Equipment are not indicated in the said Plot Plan. Kindly incorporate & share the updated Plot Plan.	Shall be shared with successful bidder.
124	Section VI, Part-A, sub section IIA-16, AHS, Clause 1.01.05 (A) iii	Six (6) numbers clinker grinders complete with drive motors, **rails,** fluid coupling, gear reducers and accessories as specified and as required.	Rail's shall be provided only if required as per our system requirement.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
125	Clause 1.01.05 (C) d	Three (3) nos. slurry sump compartment isolation valves	Please confirm whether the Slurry Sump Compartment Isolation Valve is Manual Operated or Actuator Operated.	Manual operated.
126	Section VI, Part-A, sub section IIA-16, AHS, Clause 1.01.05 (D) ii	One (1) number hopper isolation valve assembly below each economizer/eco duct hopper as specified complete with hopper connecting flanges, gaskets, nuts, bolts etc.	one (1) number motorised Hopper Isolation Valve assembly has been indicated in the Flow Diagram below	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			Eco/ Eco Duct Hoppers. This area is prone to heavy dust & high temperature. Actuator may malfunction in such scenario. We would like to go with NTPC Specification clause 1.01.05 (D)ii. Please Confirm.	
127	Clause 1.01.05 (D) v	One (1) number Feeder ejector or Flushing equipment below each air preheater hopper and duct hopper complete with flushing nozzles, expansion joints, vertical pipe connections…...	Coarse ash system is generally Intermittent system and as such Feeder ejector is the viable solution. In case purchaser requires a continuous operation, then we will go for flushing apparatus under APH & Duct Hopper. Purchaser to confirm the type of operation envisaged.	Specification requirement is clear. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
128	Clause 1.01.05 (D) vi	MS disposal pipes for transfer of air preheater hoppers and duct hoppers ash slurry from feeder ejector/flushing equipment to MS intermediate ash slurry tanks	We understand that MS ERW Pipeline 9.5 mm thk (over 200NB) & MSERW (H) over are envisaged up till coarse Ash Slurry Tank and Cast Basalt Lined MS Pipe is envisage only after Coarse Slurry Pump. Please Confirm.	Specification requirement is clear. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
129	Clause 1.01.05 (E) d	Complete chute work (Two chutes from each bins) along with chute block switches.	There are three discharge points envisaged with two working and one as future provision. We will not provide	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			any chute or extension on this future provision. We will provide only manual operated Discharge gate at future point and Two actuator operated Discharge gate at other two working openings. Please confirm.	
130	Section VI, Part-A, sub section IIA-16, AHS, Clause 1.01.06 (B) i	One (1) no. material handling valve/feed valve at the outlet of each ESP hopper. One (1) no. chute isolation valve at the outlet of each ESP hopper. **Expansion joints wherever required shall also be provided.**	Expansion joints are not required under ESP under the Vacuum System. This may kindly be noted.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
131		SLFD for Fly Ash Handling System (Vacuum System) - 9587-001(R)-POM-A-27 R1	Please confirm the logic behind 60 number of Air Inlet valves are indicated in PFD (i.e. one Air Inlet valve for two ESP hoppers) whereas we have successfully used the combination of one Air Inlet Valve for 10 Hoppers. This will lead to more Maintenance activity which may kindly be noted.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
132			Please confirm whether provision of ESP fluidising Pads and ESP Fluidising is also to be part of scope of work for AHS bidder.	Bidder to consider fluidizing blower & heater in their scope for ESP hoppers fluidization if they find it mandatory for their system's performance.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
133		SLFD for Fly Ash Handling System (Vacuum System) - 9587-001(R)-POM-A-27 R1	Please confirm that Seal water for Vacuum Pumps are to be taken from Clarified water tapping Point (to be provided by Purchaser).	Please refer TCC/ Vol (1A), clause 3.6.2, Page 15 of 89 about the requirement
134			Please confirm whether we need to provide separate Pumps for vacuum pump seal requirement or the said requirement is to be included in the BA LP pump.	Bidder to decide. BHEL will give tapping point as per TCC/ Vol (1A), clause 13.1.3, Page 68 of 89
135	Clause 1.01.07 (E) a	The fly ash coming from ESP hoppers or buffer hoppers of shall be led to a classifier silo of capacity 200 tonnes.	Please confirm whether Classifier Ash Silo is of 100T Capacity in line with Flow Diagram or 200T as per This clause.	Refer NIT SLFD for capacity of classifier silo, FA, CA hoppers. Further, Bidder may also check NIT specification, clarifications, amendments issued by NTPC along with its annexures.
136	Clause 1.01.07 (E) e	The fine ash and coarse ash after classification shall be stored in **RCC/Structural steel hoppers**, separate for fine ash and coarse ash respectively.	Please confirm whether Fine Silo & Coarse Ash Silo are to be either complete MS fabricated or complete RCC.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
137	Clause 1.01.07 (E) e	The capacity of the fine ash hopper (01 No) and coarse ash hopper (02 No) shall be 250 Tonnes each	Please confirm whether Fine Fly Ash Hopper and Coarse Fly Ash Hopper Silo is of 100T & 250T Capacity respectively in line with Flow Diagram or 250T each as per this clause.	Refer NIT SLFD for capacity of classifier silo, FA, CA hoppers. Further, Bidder may also check NIT specification, clarifications, amendments issued by NTPC along with its annexures.
138	Section VI, Part-A, sub section IIA-16, AHS, Clause 1.01.07 (E) o	The bags shall be stored in suitable closed storage area having a provision to store bags filled in 8 hrs. Mechanized transportation (without manual intervention) of fly ash bags from bagging machine up to the storage shed and	Kindly clarify the mechanised Transportation system and its components / equipments envisaged.	Refer Sl. No. MH-04 B of NTPC amendment 2B for update on bagging system requirement.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
		from storage shed to load into the Trucks, by suitable conveying system along with associated arrangements.		
139			We envisage the loading of bags and truck will be done by manual loading only.	Refer Sl. No. MH-04 B of NTPC amendment 2B for update on bagging system requirement.
140	Section VI, Part-A, sub section IIA-16, AHS, Clause 1.01.08 a	.....operation and maintenance. Each fly ash storage silo shall have six (6) outlets, Four (4) outlets for unloading ash to rail & closed truck through rotary feeders, One (1) for unloading ash to open truck with rotary feeders and ash conditioners and One (1) blanked outlet for future use.	This type of arrangement is not indicated in the process flow diagrams. Please review the same and reconfirm whether we have to provide such system.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
141	Section VI, Part-A, sub section IIA-16, AHS, Clause 1.01.08 b	Two (2) nos. (one at entry and another at exit) Pitless type Weigh Bridge shall be provided at dry fly ash silo area for Truck/Bulker loading complete with all electrical, controls, civil and structural works for weighment of trucks/bulkers before and after filling.	Please confirm whether Pitless type Weigh Bridge is to be provided at the silo complex gate or near Silo entry exit.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
142	Clause 1.01.08 d	Pitless type Weigh Bridge for rail loading below each dry fly ash silos and in between two Coarse ash Silos, minimum Four numbers, complete with all electrical, controls, civil and structural works for weighment of rail Wagons during filling.	Please clarify the usage of Pitless Type Weigh Bridge (PLTWB) in between Two Coarse Ash Silo's and where to use them. Further, in line with Flow Diagram; there is only one Fine Fly Ash Hopper and one Coarse Fly Ash Hopper.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
143	Clause 1.01.08 m	Suitable arrangement for Control of movement of Telescopic spout shall have to be provided in all three X-Y-Z directions to facilitate loading of ash into Wagons.	Please confirm whether one loading spout for one wagon is envisaged and there will be three loading spouts loading simultaneously for three	Refer Sl. No. MH-30 of amendment 02 to NTPC technical specification Sec-VI

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			wagon in case wagon loading is to be done. Further movement of Loading Spout is E-Y (up & down) is sufficient for loading of ash in Wagons. Please allow UP-DOWN movement spout as well.	
144	Clause 1.01.08 a	Three (03) streams of horizontal combined ash slurry disposal pumps complete with drive motors, variable speed hydraulic coupling for first stage pumps and fixed belt drive arrangement for subsequent stages (total three stages minimum in a series)	As per flow diagram, there are Four Streams and each stream has Four Slurry Pumps in series. Please clarify which one to follow. If Four Lines is correct then Qty of all equipment under this heading will change. Please review.	NIT SLFD is amended at later stage. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
145	Clause 1.01.08 d	Three (03) nos slurry sump compartment isolation valves	Please confirm whether the Slurry Sump Compartment Isolation Valve is Manual Operated or Actuator Operated	Manual operated.
146	Clause 1.02.00 d) v	Any treatment facility required to ensure that the total suspended solids in Economiser ash and bottom ash over flow water is restricted to 100 ppm.	Please indicate the location of the proposed clarifier system for such requirement on the plot plan.	This is EPC bid. Bidder to decide meeting tender requirement
147	Clause 1.03.00	**Ash Water Recirculation System**: Pipelines complete with flow control valves, bends, fixtures, couplings, fittings, gaskets, nuts, bolts, clamps, structural steel supports and other accessories from tapping point (suitable point inside plant) of Stage-II AWRS pipe (700 NB Dia) shall be provided by the bidder.	BHEL is requested to indicate the location of Tap point for tendering purpose.	Bidder may refer NTPC amendment 02 to Tech spec Sec VI (Sl. No. MH-54, Page 30) for AWRS terminal point and scope.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
148	Clause 1.03.00	Ash handling system & AWRS: ……. Tapping point from existing St-II AWRS pipe (located inside plant) shall be at any convenient location decided by the employer during detail engineering.		Bidder may refer NTPC amendment 02 to Tech spec Sec VI (Sl. No. MH-54, Page 30) for AWRS terminal point and scope.
149	Section VI, Part-A, sub section IIA-16, Terminal Points & Exclusion, Clause 1.01.01, 1.01.02, 1.01.03, 1.01.04, 1.01.06	Auxiliary Steam System Headers Interconnection Plant Water System **Ash handling system & AWRS**: Rail wagon/ closed tanker/ open truck loading below Fly Ash storage Silos. Open truck loading below De-watering Bins. Tapping point from existing St-II AWRS pipe (located inside plant) shall be at any convenient location decided by the employer during detail engineering. Coal Handling Plant Fuel oil system	Our scope is limited to Ash handling system & tapping of pipe from AWRS system. AWRS & rest systems are not in our scope of supply.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
150			To expedite the execution of the subject project, we will also submit our approved Sub Vendor List along with the Bid.	Sub-vendor list from successful bidder shall be reviewed
151			We assume that BA Slurry & Combined Slurry Piping in Plant is on pedestals and the FA Conveying Pipelines from Buffer Hopper to Classifier & From Classifier / Coarse /Fine Ash Silo shall be over pipe rack to respective silo. Please Confirm.	This is EPC tender. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
152		Vacuum Pressure System	As per flow diagram, coarse ash is also fed to Fine ash silo which may not be required for bagging plant.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
153			Please clarify whether the Feed point of Open Truck / Closed Bulker and Wagons are on same line (on rail track) or in Offset Positions.	Query is not clear. Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
154			Please indicate the location of the surplus earth disposal site in the layout.	Bidder to visit site and access the same
155			Please share the bore hole layout for the plant corresponding to the bore hole data given with the specification.	No Bore hole layout is available and the same to be developed based on the bore hole data given as per specification. Bidder to carryout necessary soil investigation for having better clarity.
156			Purchaser should allow the provision of Shop Testing of Equipment(s) with the Shop motor in accordance with Relevant Code / Standard.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
157	Drg. No. XXXX-001-POM-A-025 Zone C-6	Valve arrangement over DWBs is shown.	Valve arrangement over DWBs is not in order. Please confirm that valves arrangement shall be decided by bidder during detail engineering stage.	No. of Valves indicated in the NIT SLFD is minimum and needs to be followed. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
158	Drg. No. XXXX-001-POM-A-025 Notes Sl. No. - 12	…… In case BA Slurry Transportation Pump shall be located inside Ash Slurry Disposal Pump House.	Please confirm that whether BA Slurry Transportation Pump can be located inside Ash Slurry Pump House as per Note No. - 12	Noted, subjected to acceptance of bidder's proposal from NTPC.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
159	Drg. No. XXXX-001-POM-A-028 Zone H-11	Valve arrangement over Fly Ash Storage Silos	Please confirm that valve arrangement over Silos shall be decided by bidder during detail engineering	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
160	TCC - Volume - 1A, Clause No. 3.14, Page No. 17 of 89	PT Sludge Qty. is specified as 135-185 m^3/hr	Please review the PT Sludge Qty. as discussed in Pre-bid on 29-05-2025 to avoid huge Make-up water in Slurry Sump resulting wastage of Power consumption.	PT plant sludge discharge from the PT Plant Clarifiers to be considered as 90 cum/hr (Tentative) on continuous basis.
161	TCC - Volume - 1A, Page No. 68 of 89	Bhel shall use AHP Pipe rack with 5 Nos. from 50NB - 250NB.	Please indicate each Pipe MOC against pipe size to be provided by BHEL for use of AHP Piperack of bidder.	Bidder to refer 8003-001-301-POC-F-001-02-PIPE CUM CABLE RACK AHP_PEM PIPES OVER PIPE RACK (003) issued along with this corrigendum
162	TCC - Volume - 1A, Chapter - XII : Exclusions Clause No. 12.2, Page No. 67 of 89	Under exclusions Civil & Structural work outside Plant Boundary for Ash Slurry disposal System specified, but Ash Water Recovery System is not indicated here.	Please confirm that Civil & Structural works outside Plant Boundary for Ash Slurry Disposal System as well as Ash Water Recovery pipes is under exclusion.	Execution of civil and structural works are excluded beyond terminal points for ash disposal system as well as recovery pipes. However detail engineering related to civil and structural works required for execution of pipe lines beyond the terminal point also in bidder's scope which also includes crossings of Roads, Rail, Existing pipelines, existing structures etc. Topography of complete ash slurry pipe corridor including longitudinal sections for detailed engineering is also included. Further, Bidder may please also refer NTPC amendment 02 to Tech spec Sec

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
				VI (Sl.No. MH-54,Page 30) for AWRS terminal point and scope.
163	Drg. No. XXXX-001-POM-A-025 Zone C-4	4 Nos. Ash Slurry Disposal pump series is shown	Please confirm the nos. of Ash Slurry Disposal pump series with Nos. of Working & Standby series.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
164	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR 1X800 MW NTPC SIPAT AHP 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. These loads also shall be considered by bidder for transformer sizing (Total BHEL load of 100 KVA to be considered for transformer sizing).	We understand that 2 Nos. uncabled feeders each of 250A, 100A, 63A, 32A, 16A rating O/G feeders to be considered for 415V PMCC board sizing. However, 100 KVA load to be considered for transformer sizing.	Scope Matrix is clear. Bidder to follow the same. Bidder to refer Annexure-3 Rev01 issued along with this corrigendum.
165	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR 1X800 MW NTPC SIPAT AHP Sr no-1	following 415V feeders are also required in AHP MCC near ASH SILO area for BHEL-PEM usage and load of 350 KVA to be considered for transformer sizing. a) 2 No. 630A Motor feeders b) 6 No. 63A Supply feeders	We understand that 2 No. 630A Motor feeders & 6 No. 63A O/G Power feeders to be considered for 415V PMCC board sizing. However, 350 KVA load to be considered for transformer sizing near ASH SILO area.	Scope Matrix is clear. Bidder to follow the same. Bidder to refer Annexure-3 Rev01 issued along with this corrigendum.
166	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR 1X800 MW NTPC SIPAT AHP Sr no-4	Roof Top Solar System	We understand that the System are considering for AHP building only. Please confirm.	Confirmed, Bidder to refer Annexure-3 Rev01 issued along with this corrigendum.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
167	Annexure - 2 - AHP Scope Matrix	Fire fighting System for AHP	As discussed in Pre-bid on 29-05-2025 please elaborate the type of Fire Fighting system with details.	Bidder to follow the NTPC Specifications for type of Fire Protection System.
168	TS - SECTION - VI, PART-E, PAGE NO. 2 of 127 DRG. NO. - 9500-999-POE-J-001	PROPOSED FOR STAGE-III	We understand that PROPOSED FOR STAGE -III as indicated in drawing is in BHEL scope. Please confirm	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
169	Tender Notice	Annexure - 1 PQR, Tender Notice, B-Civil Annexure - 1 PQR, Tender Notice, B.1-Civil	As per the standard guidelines of similar tenders, there is no limitation of years for reference executed projects. Therefore, we request you to kindly remove year restriction from the said clause. Further, we understand that 'complete civil work' corresponds to major civil work associated with ash handling plant comprising of Compressor house, Electrical building, control rooms, foundations for buildings, Silos and pipe racks.	Tender Conditions shall prevail. Refer PQR clause modification as above, published along with this corrigendum.
170	Tender Notice	Annexure - 1 PQR, Tender Notice, C-Structural	As per the standard guidelines of similar tenders, there is no limitation of years for reference executed projects. Therefore, we request you to	Tender Conditions shall prevail.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			kindly remove year restriction from the said clause.	
		Annexure - 1 PQR, Tender Notice, C.1-Structural	Further, we understand that 'complete AHP structures' corresponds to major structural work associated with ash handling systems comprising of Silos with supporting structures, Pipe racks, Secondary pipe supports, cable supports, ash handing equipment supports.	Refer PQR clause modification as above, published along with this corrigendum
171	Tender Notice	Annexure - 1 PQR, Tender Notice, C.2-Structural	The quantity of Structural erection work may please be reduced to 3000 MT from 5000 MT	Refer PQR clause modification as above, published along with this corrigendum
172	Volume -IC, GCC	Cl. 1.9.1 (iii), Ernest Money Deposit (EMD)	We request you to kindly accept full value of EMD i.e. Rs. 50 Lacs in the form of Bank Guarantee (BG) instead of Rs.2Lacs (cash/ EFT/ Cheque/ DD/ FDR/ Pay order/ Insurance surety bond) + Rs.48 Lacs in BG form.	Tender Conditions shall prevail.
173	TCC - Volume - 1A, Clause No. 7.0, Page No. 46 of 89	Payment Terns - Advance payment is not envisaged.	Considering the scope of work & quantum involved, Advance Payment would help the facilitation of project execution. Therefore, we request you to kindly pay 10%	Tender Conditions shall prevail.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			as Advance on the basic contract value against submission of equivalent amount of ABG (reducing value type).	
174	General	Sieve Analysis of Fly- Ash (% by weight) (Before ESP & SCR not in operation) Less than 10 microns 5-25 10 - 30 microns 10-25 30 - 50 microns 5-15 50 - 70 microns 5-15 70 - 90 microns 5-10 90 - 100 microns 4-10 Greater than 110 microns 25-40	We are designing the system with ESP ash PSD has been considered as below based on past similar NTPC contracts. PSD %<Size, microns 10%<10 microns 25%<10-20 microns 50%<45 microns 75%<60-120 microns 90%<120-150 microns 95%<150-200 microns 100% <200-300 microns	Sieve analysis mentioned in the specification is for reference only. Further, Bidder may please refer clause 3.6/remarks, Page 15 of 89 of TCC/Vol 1(A) for clarity.
175	General	-	Customer to requesting to share ash data to be considered for AHP design.	Please refer TCC/ Vol (1A), clause 3.6, Page 14 of 89.
176	General	ESP Ash % distribution	Customer to share ESP field wise ash distribution data considering a) All Fields working b) First Two fields out condition	Bidder to refer Ash distribution data in various fields of ESP hoppers_8003-001-104-PVM-U-002_Approved issued along with this corrigendum.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
177	Ash Data / Clause 3.6/ Pg 1 of 2	Additional Information Economizer hoppers 4 Economizer Outlet duct hoppers 3 + 3 Air Preheater Hoppers 3 + 3 AH-ESP duct hoppers 3 + 3	Please confirm the number of hoppers as discrepancy in ash data document and SLFD	Please follow data furnished at TCC/ Vol (1A), clause 3.6, Page 14,15 of 89.
178	SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING SYSTEM/1.01.08/12 of 18	Combined ash Slurry disposal pumping system a) Three (03) streams of horizontal combined ash slurry disposal pumps complete with drive motors, variable speed hydraulic coupling for first stage pumps and fixed belt drive arrangement for subsequent stages (total three stages minimum in a series) , base plate, foundation bolts, inserts, embedment and accessories as specified and as required, out of which one stream will be working, one stream will be normal standby and other stream will act as maintenance standby. Provisions shall be there for locating another additional Pump in series within the Pump House, for future use.	We understand conveying line is 3 numbers, however 4 stream of pump and 5 numbers of pump in series for each stream. Please confirm our understanding.	NIT SLFD indicates minimum no. of ash slurry disposal pump in each series. In case any additional pumps are required in each series then same shall be considered by bidder in their scope.
179	SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING SYSTEM /1.01.07/ 9 of 18 Annexure-6_Ammendment 02 to technical specification/MH-40/23	ASH CLASSIFICATION AND BAGGING SYSTEM Two numbers Semi-automatic Bagging machines with capacity of 200 bags/Hr/Nozzle having two Nozzles per Machines. The bagging plant shall have provision for mechanized bagging of this fine ash. Fine ash shall be bagged in 50 kg cement bags. The quantity of fine ash shall be 35 kg in cement bag of 50 kg.	Input and outlet nozzles and capacity of each nozzle will be as per manufacturer standard. Bagging machine capacity will be 200 bags/hr. Please confirm.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
180	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 1 of 6	APH/Duct Hopper ash slurry evacuation	APH/Duct Hopper ash slurry will be evacuated with Jet pump system instead feeder ejector as mentioned in Bid document. Same is provided	Bidder to follow NIT specification. Further, details as per NIT specification shall be finalized during detailed engineering subjected to acceptance from NTPC.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			by bidder in past contract like NTPC Tanda, NTPC Khargone. BHEL/NTPC is requested to accept above requirement and provide amendment to bid document.	
181	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 1 of 6	AHP Flow Diagram	Bidder is providing their proprietary Spray ring/Jet pump for APH/ Duct hopper coarse ash system, same is provided & running successfully in past executed NTPC contracts.	It shall be discussed and finalized (Subjected to NTPC's acceptance) during detailed engineering.
182	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 1 of 6	AHP Flow Diagram	As per sizing calculation, combined ash slurry sump pump quantity per series is coming as 5 nos instead of 4 number as per NTPC SFLD considering the Minimum pumping distance – 14.5 Km or as per actual distance for the farthest disposal point in ash dyke, whichever is higher as per Annexure-6_Clause 4.01.02 (M) 4.Sipat_Part_B_Book_I_Mech - Equipment Sizing criteria (page no. 77 of 87)	NIT SLFD indicates minimum no. of ash slurry disposal pump in each series. In case any additional pumps are required in each series then same shall be considered by bidder in their scope.
183	SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING	The length of total combined Ash disposal pipelines shall be 39,000 m (excluding fittings and including branch pipes for garlanding of mine void) or the actual distance	As per document Equipment sizing criteria (i) Minimum pumping distance – 14.5 Km	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	SYSTEM /1.01.08/ 13 of 18	(excluding fittings) including branch pipes for garlanding of mine void, whichever is higher.	or as per actual distance for the farthest disposal point in ash dyke, whichever is higher. Please clarify the pumping distance for the combined ash disposal system to be considered for 4 numbers line from ash slurry sump to dyke since if we calculate 3 pipe of each 14.5 km the distance is length is coming as 43500m	
184	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 4 of 6	AHP Flow Diagram	PT & TE instrument in ash line shown in SLFD is not required as per process requirement hence it can supplied as loose however for monitoring only. No interlock will be considered in operating philosophy for this requirement.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
185	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 4 of 6	AHP Flow Diagram	As per bidder standard design we have provided vent valve with vent line dedicated per vessel connected to ESP hopper individually (ESP Field 1-5) as shown in bidder Key Process diagram.	We haven't received any key process diagram. Further, It shall be discussed and finalized (Subjected to NTPC's acceptance) during detailed engineering.
186	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 4 of 6	Cooling Arrangement for ECO & ECO outlet Duct Hoppers	Bidder offered system does not require such cooling system/ Cooling	Noted.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			arrangement. The same is not required.	
187	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 4 of 6	ESP Pressure conveying system pressure vessel	ESP Pressure conveying system as per bidder design will be DEPAC conveying system. As per bidder design DEPAC vessel conveying are Top discharge mode (i.e. it is not bottom discharge). Bidder has provided similar DEPAC system in NTPC Patratu project. BHEL/NTPC is requested to accept above requirement and provide amendment to bid document.	A-025 is NIT SLFD for BA (Jet pump) system and not for FA system. However, ash vessel design shall be discussed and finalized (Subjected to NTPC's acceptance) during detailed engineering meeting NIT specification requirement.
188	AHP Flow Diagram XXXX-001-POM-A-025 _Rev C/ 5 of 6	-	When Ash classifier system is working, then one number conveying line will be working from Fine Ash Hopper and three numbers line will be working from Coarse Ash hopper, i.e. total 4 numbers of line will be working. When Classifier system is not working then 4 numbers of line will be working from one working coarse ash hoppers. Please confirm our understanding.	A-025 is NIT SLFD for BA (Jet pump) system and not for FA system. Bidder's understanding is not correct. When classifier is not working then 3 lines will be working from working Coarse ash hopper.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
189	SECTION-VI PART-B SUB SECTION-A-01 EQUIPMENT SIZING CRITERIA/ 4.01.02 (K) / 77 of 87	Storage capacity for Classifier Block Silos/Hoppers are as follows: - Fine fly ash Hopper-500 (T), Coarse Fly ash Hopper-500 (T), Classifier Silo -200 (T). Main storage for fine Ash Silo shall have minimum 1750 MT effective storage capacity.	Bidder is considering the silo capacities as per SLFD as mentioned below please confirm: 1. Classifier silo Capacity - 100 Tonnes. 2. Coarse fly ash hopper capacity - 250 Tonnes. 3. Fine fly ash hopper capacity - 100 Tonnes. 4. Fine fly ash silo capacity - 1000 Tonnes. 5. Fly ash storage silo capacity - 1500 Tonnes.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
190	SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING SYSTEM / 1.01.07/ 9 of 18	In case fine ash and coarse ash is coming through same pipelines to the classifiers, Classification of 40 % of ESP ash (40% of ash conveying capacity) in ash classifiers is to be provided. The remaining unclassified ash shall be taken directly to the coarse fly ash hopper.	For system design purpose, we are assuming Classifier will classify 50% of fly ash below 45 microns going to fine ash hopper/silo and remaining 50 % above 45 microns will be going to coarse ash hopper/silo. Also, please confirm only one classifier is provided on one Coarse Ash Hopper other coarse as hopper which is standby does not have any provision for classification.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
191	SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING SYSTEM / 1.01.07/ 10 of 18	Each fly ash storage silo shall have six (6) outlets, Four (4) outlets for unloading ash to rail & closed truck through rotary feeders, One (1) for unloading ash to open truck with rotary feeders and ash conditioners and One (1) blanked outlet for future use. Five (5) numbers of Dry fly ash unloaders from each dry fly ash storage silo along with rotary feeders, telescopic chutes and other accessories as specified and as required.	No. of outlets will be considered as per SLFD_Rev C. Please confirm	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
192	SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING SYSTEM / 1.02.00/ 14 of 18	c) HP and LP Seal water pumps (one working + one standby each) for meeting the seal water requirement of Combined slurry disposal pumps and drain water pump of Combined slurry pump house, etc. These pumps shall be located in the Combined ash slurry disposal pump house	Please confirm quantity of seal water pump for BA Slurry sump and combined ash slurry sump.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
193	SECTION-VI PART-B SUB SECTION-A-01 EQUIPMENT SIZING CRITERIA /4.01.02 (M)/77 of 87 SECTION-VI, Part-A SUB-SECTION-IIA-16 ASH HANDLING SYSTEM / 1.01.08 (b)/ 13 of 18	(i) Minimum pumping distance – 14.5 Km or as per actual distance for the farthest disposal point in ash dyke, whichever is higher. Elevation of top of Ash dyke: - RL 310 m The length of total combined Ash disposal pipelines shall be 39,000 m (excluding fittings and including branch pipes for garlanding of mine void) or the actual distance (excluding fittings) including branch pipes for garlanding of mine void, whichever is higher.	Kindly confirm the pumping distance including garlanding to be considered from combined ash slurry sump to ash dyke for designing the system	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
194	General	Equipment Specifications	Please note that all the fly Ash Hopper Flanges shall be standard circular flanges with drilled ANSI standard and size will be same with that of the isolation gate to avoid adaptors.	Fly ash hopper flange details shall be provided to the successful bidder during detailed engineering. Counter flanges shall be provided by the bidder. Wherever swuare flanges are provided below ash hoppers, square to round adapters shall be provided by bidder.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
195	General	Material of construction & design of all proprietary items like Fly ash diffuser valve (FAD), paddle mixer, Material handling valves, etc.	All these equipment's being proprietary in nature, manufacturer shall provide their own standard design & MOC, which is proven & working in many domestic & international plants successfully over the years. Hence MOC of all proprietary item will as per manufacturer standard as these are approved by NTPC is past executed projects	It shall be discussed and finalized (Subjected to NTPC's acceptance) during detailed engineering.
196	Annexure-4_Plot Plan	-	Location of seal water tank & pump not shown in plot plan. BHEL /NTPC is requested to provide same.	This is EPC tender. Bidder to decide meeting the requirement of NIT specification, clarifications, amendments issued by NTPC along with its annexures.
197	Annexure-4_Plot Plan	Layout	BA Slurry Pipe routing from jet pump ash slurry pump is considered from ground (sleeper). Please confirm.	Bidder to note that this is EPC tender and routing of BA slurry piping etc is to be decided by bidder meeting the requirement of NIT specification, clarifications, amendments issued by NTPC along with its annexures.
198	General	-	Customer is requested to provide the following - a. Location of Utilities with available pressure and temperature at the tap off point.	Please refer TCC/ Vol (1A), clause 13.1.3, Page 68 of 89 for terminal point of the various water requirement and clause 3.6.1, Page 15 of 89 for IA requirement for AHP. Further details shall be provided with

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			b. Available Cooling & Service Water Quality, Quality & type of Instrument or Service Air considered. c. General arrangement drawing of Boiler, ESP and Piperack adjacent to boiler auxiliaries to plan the routing & design of ash handling pipes.	successful bidder after award of contract.
199	General	-	No ESP Hopper Fluidizing blower is considered in tender document. Also not shown in SLFD. We understand ESP Hopper fluidization is not in AHP vendor scope. However in such case bidder request to ensure free flow of ash from ESP hoppers.	Bidder to consider fluidizing blower & heater in their scope for ESP hoppers fluidization if they find it mandatory for their system's performance.
200	General	-	As bidder is approved ash handling vendor we have considered all proprietary items as per bidder design an manufacturing and QA testing in our partner shop. List of partner shop will be shared along with techno-commercial offer.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
201	General	-	For First Stage conveying vessel there is no individual vessel outlet valve, hence we have not considered vessel discharge branch line valve.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
202	General	-	Please clarify, MOC of pipe b/w APH & Duct hoppers to Coarse ash tank and scope of supply of pipe. In past executed projects it was MS ERW pipe.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
203	SECTION-VI, PART B SUB-SECTION: A-21 ASH HANDLING PLANT/ 2.04.00/20 of 42	Fly Ash Feed valves/ Fly Ash Branch Separation Valves b) Pressure system Type: Plate type / butterfly / dome type/cone type. Material of construction: Body: Alloy Cast Iron, 250 BHN (min.) hardness. Plate/Disc/Dome/Cone: Minimum 10 thick SS/Alloy C.I-300-350BHN Seat: Replaceable type alloy Cl. Or SS smooth finished with hardness 250 BHN.	Bidder proprietary valves for Pressure conveying system will be as per bidder design & MOC will be similar to as supplied in past executed contracts including NTPC Projects. VALVE - STRAIGHT DROP GATE, 8" X 10", AC OPTD (DEPAC Vessel Inlet valve) Body: Gray Iron Class G-4000 250 BHN Min Disc: Durite H / Alloy CI 550 BHN Seat: Durite H / Alloy CI 550 BHN	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
204			Fly Ash Diffuser (FAD) (ESP Field 6 to 10 below ESP hopper & for second stage conveying Nuvafeeder vessel inlet/outlet) Body: Gray iron G4000, 250 BHN Disc: DUIRTE/Alloy CI with min 550 BHN Seat DUIRTE/Alloy CI with min 550 BHN	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
205			Knife Gate Valve (ESP Branch line isolation) Body: DUIRTE/Alloy CI with min 250 BHN Disc: SS 304 / SSX04CR19NI9, IS:1570, PART 5 Seat: MOLDED ELASTOMER WITH DUCTILE IRON SEAT INSERT	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
206			Vent Valve /Pressurizing Valve (DEPAC vessels as applicable/Nuvafeeder vessels) Body: Gray Iron G3000 Disc: Holder -Carbon Steel, IS: 1570, Liner-8thk Ceramic, 82 HRC Seat: Holder -Carbon Steel, IS:	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			1570, Liner-8thk Ceramic, 82 HRC	
207			Elbows/Laterals MOC: Elbows: Durite/alloy CI, 400 BHN, min thk 20 mm Lateral: Durite/alloy CI, 400 BHN, min thk 20 mm TEE: Durite/alloy CI, 400 BHN min Wear Section: Durite/alloy CI, 400 BHN min. Concentric Reducer: Durite/alloy CI, 400 BHN min	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
208	SECTION-VI, PART B SUB-SECTION: A-21 ASH HANDLING PLANT/ 1.02.00 /2 of 42	Bottom Ash Water Impound Hopper Discharge Gates Quantity and Size: 6 nos. and 900 x 900 mm (min) Material of construction: p) gate: CI as per IS 210 Gr FG 260 q) Gate wear liners: 6 mm thick SS:316 r) Housing wear plates/impingement plates: 25 mm thick Cast Iron IS:210, Gr. FG-260 s) Housing: 10 mm thick (min.) Mild Steel IS:2062	Ash Sluice Gate 1. Ash Sluice Gate: CI as per IS 210 Gr FG 260 2. Frame: CI as per IS 210 Gr FG 260 3. Liner-25mm thk: CI as per IS 210 Gr FG 260 4. Enclosure: MS IS2062 10 mm thick	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
209	SECTION-VI, PART B SUB-SECTION: A-21 ASH HANDLING PLANT/ 1.07.00/11 of 42	Clinker Grinder /Ash Crusher Quantity &Type 6 (3W+3S); Heavy duty Double Roller Material of Construction: a) Grinder Chamber: Carbon steel I(IS:2062) 10 mm thick. b) Wear Plates: 12-14% Mn. Austenitic steel	Crusher-Single Roll 1. Body: MS IS 2062 2. CAM: ACI/Durite with min BHN 550 3. ANVIL plate: ACI/Durite with min BHN 550	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
		plates to IS:276 10 mm thick c) Grinder Rolls & teeth: Hadfield's Manganese steel (ASTM A128. 12-14% Mn) casting shop hardened to 300-BHN at all working surfaces and work hardened to 400 BHN at site. d) Grinder shaft: Stainless Steel 304/EN-8. e) Shaft Sleeve: Hardened stainless steel 410/416. f) Clinker outlet chute: 10 mm thick mild steel (IS:2062) lined with wear resistant liners as above.	4. Combing Plate: ACI/Durite with min BHN 550 5. Shaft: EN24 6. Wear Plate: ACI/Durite with min BHN 550 7. Shaft Sleeve SS 410 8. Liner: Not Applicable	
210	SECTION-VI, PART B SUB-SECTION: A-21 ASH HANDLING PLANT/ 2.07.00/21 of 42	Pneumatic Ash Extraction and Transportation Pipelines Fittings: Ni-hard / chrome alloy cast iron or equivalent. Minimum hardness 400 BHN. Wear back thickness 20 mm. Or: 20 mm thick cast basalt line MS fittings. (Thick of MS 6 mm.)	Ash Pipe fittings: 1. Tube-Combining: ACI/ Durite with min BHN 550 2. Nozzle: SS410/Ceramic insert 3. Body: Combining: ACI/ Durite with min BHN 550	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. Further, it may be discussed during detailed engineering subjected to acceptance of bidder's proposal from NTPC.
211	General	-	Location of Drain pumps are not clear. Kindly furnish the locations and the quantity of Drain pumps.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
212	General	Combined Ash Slurry Disposal System	We understand the combined ash slurry disposal system will work in the sequential mode. i.e. BA Slurry evacuation 2.7 hrs/ shift then coarse ash slurry evacuation of 1.3 hrs/shift following to Fly ash slurry evacuation of remaining 4 hrs/shift of 8 hrs, however ash evacuation rate	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures. May please note that there are total of 4 series of combined ash slurry disposal pumps.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			by which fly ash is coming to FA IM silo is 6 hours. So we only get time for 4 hours evacuation of FA IM Slurry. Please confirm our understanding. Also request BHEL/NTPC to provide suitable amendment for the same.	
213	General	-	Number of cycles for 1st stage ESP DEPAC conveying system is 20-30 nos cycles/hr, and 2nd stage from Fine/Coarse ash hopper to Fine/Fly ash storage silo is 30 nos cycle/hr.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
214	General	Layout	BA Slurry Pipe routing from jet pump ash slurry pump is considered from ground (sleeper). Please confirm	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
215	SECTION-VI, PART-A SUB-SECTION-VI CHAPTER - 03 ASH HANDLING PLANT MANDATORY SPARES / 4.02.00 4.02.02/4 of 14	Airlock/Blow Tank System Air lock/pump tank outlet valve For first stage Conveying	For First Stage conveying vessel there is no individual vessel outlet valve, hence mandatory spares 16 nos for airlock discharge valve is not applicable	Bidder to follow TCC/ Vol (1A), clause 3.55, Page 24 of 89.
216	SECTION-VI, PART-A SUB-SECTION-VI CHAPTER - 03 ASH HANDLING	Airlock/pump tank air injector nozzles	Nozzle are not applicable for our system.	Bidder to follow TCC/ Vol (1A), clause 3.55, Page 24 of 89.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
	PLANT MANDATORY SPARES/ 4.02.04 /5 of 14			
217	SECTION-VI, PART-A SUB-SECTION-VI CHAPTER - 03 ASH HANDLING PLANT MANDATORY SPARES/ 5.00.00 5.01.00/8 of 14	FLY ASH CONVEYING LINE / ISOLATION VALVES/ FITTINGS COUPLINGS Material handling valve/Ash intake valve Below ESP	Bidder has considered ESP vessel inlet/outlet valve as per clause 4.02.00 Airlock/Blow Tank System. Material handling valve/Ash intake valve Below ESP is not considered as already valves considered per clause 4.02.00 and also Vacuum system is not applicable.	Bidder to follow TCC/ Vol (1A), clause 3.55, Page 24 of 89.
218	SECTION-VI, PART-A SUB-SECTION-VI CHAPTER - 03 ASH HANDLING PLANT MANDATORY SPARES/ 5.00.00 5.01.00/8 of 14	FLY ASH CONVEYING LINE / ISOLATION VALVES/ FITTINGS COUPLINGS Fly ash extraction line segregating valve seats Fly ash extraction line isolation valve Gates/Flaps	Bidder understand Fly ash extraction line segregating valve as ESP discharge branch line isolation valve which is bidder 130 DB Knife gate valve. customer to confirm bidder understanding is correct.	Bidder to follow TCC/ Vol (1A), clause 3.55, Page 24 of 89.
219	SECTION-VI, PART-A SUB-SECTION-VI CHAPTER - 03 ASH HANDLING PLANT MANDATORY SPARES/ 5.00.00 5.01.00/8 of 14	Fly ash extraction line couplings - 16 Nos	Bidder has considered each type fly ash coupling 16 nos. Please confirm	Bidder to follow TCC/ Vol (1A), clause 3.55, Page 24 of 89.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
220	SECTION-VI, PART-A SUB-SECTION-VI CHAPTER - 03 ASH HANDLING PLANT MANDATORY SPARES/ 5.00.00 5.01.00/8 of 14	Fly ash Conveying Pipelines and fittings 10% of population for each type	Fitting as coupling already considered for clause 5.04.00 of 16 nos each. Hence separate spares 5.06.00 is not considered.	Bidder to follow TCC/ Vol (1A), clause 3.55, Page 24 of 89.
221	ANNEXURE - 1 PRE QUALIFYING REQUIREMENTS (PQR) Clause No B (B.1)	Bidder shall fulfil either B.1 or B.2 in last Ten Years from the latest date of bid submission; Bidder should have executed one complete civil works of Ash Handling Plant/Coal Handling Plant in a Coal based/Lignite based power plant	Bidder should have executed one ~~complete~~ civil works of Ash Handling Plant/Coal Handling Plant in a Coal based/Lignite based power plant **or mining /Industrial Plant**." Kindly note that the above amendment is suggested in line with the clause which has been specified for structural work. i.e C.2 that specified Industrial plant. Also kindly note that the quantum of work for civil works in mining or other industrial projects are generally same if not higher. Accordingly the amendment should be justified. The type of civil work in mining or other industrial project are also	Refer PQR clause modification as above, published along with this corrigendum

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			similar to that of AHP/ CHP for a power plant.	
222	ANNEXURE - 1 PRE QUALIFYING REQUIREMENTS (PQR) Clause No C (C.2)	Bidder Should have executed Structural Erection Works of 5000 MT in Single Work order in any Thermal Power Plant or Industrial Plant.	BTL request an amendment in line with following:- "Bidder Should have executed Structural Erection Works of ~~5000MT~~ (3500 MT) in Single Work order in any Thermal Power Plant or Industrial Plant." Kindly note that as per the general scope of work for an Ash Handling system of 1 X 800MW unit the requirement of structural steel varies from 2500MT to 5000MT. Considering the fact that while prescribing the qualifying requirement , a percentage of actual requirement is considered, the threshold 4000MT should be justified.	Refer PQR clause modification as above, published along with this corrigendum
223	Vol-1A (TCC) Clause No.3.6.3 Page 16 OF 89	**Ash Water Recovery System** Bidder's scope of work for Recovery water system shall be from the terminal point tentatively indicated in the plot plan (approx. 5 meter inside plant boundary)	We understand that recovery pipe and others like clarifier etc, required outside the plant boundaries are excluded from our scope. Kindly confirm.	Civil & structural works upto terminal point as per NIT specification is in bidder's scope like upto tapping point for AWRS piping. Regarding recovery pipe and others, Bidder to follow NIT specification,

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
				clarifications, amendments issued by NTPC along with its annexures.
224	Vol-1A (TCC) Clause No.13.2.2 Page 69 OF 89	**For Wet Fly Ash/Combined Ash (Boiler, Eco, Eco outlet duct, ESP, APH, AH-ESP Duct)** Through lean phase slurry system and slurry pipes shall be terminated near plant boundary (approx. 5 meter inside plant boundary).	We understand that lean slurry pipe and others, required outside the plant boundaries are excluded from our scope. Kindly confirm.	Civil & structural works upto terminal point as per NIT specification is in bidder's scope like upto termination point for Ash slurry disposal piping. Regarding lean slurry pipe and others, Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
225	Annexure- 2	**Scope Matrix (AHP)** Sewarage system, Road & drain, ETP etc.	We understand that main plant road & drains are excluded from our scope, only the road & drain that connect the AHP building with the main road & drain is in the scope of AHP bidder. Kindly confirm. Also please provide the schematic drawing showing AHP sewarage system.	Road layout drawing PE-DG-520-603-C003 developed from BHEL end, issued along with this corrigendum. Tentative roads for the areas of CHP, AHP, FGD, biomass except Ash silo are marked as guidance. Bidder is expected to develop final layout of roads and drains including sewarage system required for AHS and same are to be executed by bidder.
226	Drg. No.XXXX-001-POM-A-027, RB	SINGLE LINE FLOW DIAGRAM FOR FLY ASH HANDLING SYSTEM (VACUUM SYSTEM)	The detail "X" of the drawing showing that wetting head, collector tank system has been envisaged along with vacuum conveying system. Kindly confirm.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC along with its annexures.
227	Drg. No. PE-DG-520-100-M001 R01	PLOT PLAN (GLP)	Kindly provide the Auto CAD version of the referred drawing. The same is require	AUTOCAD drawing shall be issued to the successful bidder.

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
			to measure the exact distance between the facilities.	
228	SECTION-VI PART-A, SUB-SECTION-IIA-16, Sl. No. E Page (5 of 18)	Six (6) nos. dewatering storage bins (3 nos. working and 3 nos standby) each of sufficient capacity to store the total ash production of bottom ash,	The single line flow diagram for Bottom Ash Handling system shows 4 Nos. Dewatering Bin. Kindly confirm the exact number.	Noted.
229	SECTION-VI PART-A, SUB-SECTION-IIA-16, Sl. No. 1.01.08 (t) Page (12of 18)	One (1) number conventional enclosure type passenger cum goods elevator having capacity of 16 persons (1088 kg) complying to IS:14665 (latest edition) with drives, all electrical, mechanical, civil, structural & associated foundation works, accessories and to serve various floors of all the Silos of Main Fly ash Silo complex.	Kindly provide the exact no of elevator used in Ash Handling system.	Bidder to follow NIT specification, clarifications, amendments issued by NTPC regarding no. of elevators for AHP. No. of elevators mentioned in TCC/ Vol (1A), Clause 3.6.4, page 16 of 89 under miscellaneous equipment is to be ignored.
230	ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX Roof Top Solar System	For estimation, the bidder may take 10 % of the total capacity of the Solar Plant Defined for the SIPAT 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.	We request BHEL to inform the name of the vendor to which BHEL has placed the order for the total main plant. So that we can take the quote from them.	The same shall be informed to the successful bidder during detailed engineering.
231	SECTION-VI PART-B, SUB-SECTION-A-01, Equipment sizing criteria Page 77 of 87	Minimum pumping distance – 14.5 Km or as per actual distance for the farthest disposal point in ash dyke, whichever is higher. Elevation of top of Ash dyke:- RL 310 m	Kindly provide the Auto cad version of the Plot Plan drawing.So that all the elevation at slurry pump house level can be seen.	AUTOCAD drawing shall be issued to the successful bidder.

Corrigendum - 6 dated 08/07/2025 to CPC Tender No. BHEL/CPC/SPT/EPC-AHP/26/017

Sl. No.	Section/Clause No	Specification	Bidder's Query	BHEL Clarification
232	Drg. No.XXXX-001(R)-POM-A-029, R (C)	Single LINE FLOW DIAGRAM FORASH CLASSIFIER SYSTEM (VACUUM SYSTEM)	Kindly provide the Capacity of each pressure conveying line envisaged below Classifier Hopper and Fine Ash hopper	This is EPC tender for complete Ash handling plant. System capacities to be calculated by bidder meeting NIT specification requirement. Successful bidder shall submit the design calculation during engineering for review and approval from BHEL/NTPC.

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

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR						1X800 MW NTPC SIPAT AHP	Rev: 01 Dated: 16-06-2025
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) 3.3KV Switchboard 3) 3.3KV 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. In Addition to above following 415V feeders are also required in AHP MCC near ASH SILO area for BHEL-PEM usage and load of 350 KVA to be considered for transformer sizing. a) 2 No. 630A Motor feeders b) 6 No. 63A Supply feeders Adequate nos. of trays with support from bidder's scope of 415V switchboard up to bidder's rack planned nearest to respective BHEL 415V load facility shall be provided by Bidder for Cables in BHEL scope. 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. Bidder to co-ordinate with BHEL-PEM for the Civil inputs required in Centralised Offsite Control Room for AHP system equipment's. 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/facilities	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. Please refer plot plan for further details	
BHEL FREE ISSUE EQUIPMENTS							
3	**11KV and 3.3KV Switchboard** One number each of 11kV and 3.3kV HT switchboards, with the maximum available outgoing feeders as mentioned in **Sl 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 Sl 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 Sl 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 Sl. No. 10. Bidder shall determine the appropriate rating of the 11/3.3 kV transformer and ensure that the maximum loading at the 11 kV level does not exceed the maximum cut-off MVA specified in Sl. No. 10. Few additional 11KV/3.3KV feeder will be addded 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. Adequate nos. of trays with support from 3.3kV/11KV switchboard located in bidders building up to bidder's rack planned nearest to respective BHEL 3.3kV/11KV load facility shall be provided by Bidder for the BHEL scope of Cables. During the engineering of the HT bus duct, interconnection between the bidder-supplied 11/3.3 kV transformer and the BHEL free-issued 3.3 kV switchboard, the bidder shall ensure that relevant inputs are obtained from BHEL for the termination of the HT bus duct at the 3.3 kV switchgear end. The bidder shall also ensure that the forward phase sequence, correct CT parameters are maintained during detalied engineering of 11kV and 3.3KV 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 **Sl No 13** for List of 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. Before shifting motors from BHEL storage to bidders storage/facilities, the bidder shall conduct motor testing. In case any fault occurs during operation and BHEL recommends repair at the factory premises, the bidder shall decouple/remove the motor and shift it to the BHEL storage. After repair, the bidder shall again unload, erect and test the motor. If any EPC bidder designed equipment requires job motor during inspection of the equipment, then BHEL shall transport directly to manufacturers works. post inspection despatch of motor directly to project site including loading, unloading storage is in bidders scope. Any damage during transit shall be dealt as per BHEL commercial terms and conditions	

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR						1X800 MW NTPC SIPAT AHP	Rev: 01 Dated: 16-06-2025
SL. NO.	**SCOPE DETAILS**	**INPUT DETAILS**	**ENGINEERING / DESIGN**	**SUPPLY**	**RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING**	**REMARKS**	
5A	Main AHP & AWRS control system (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 for E&C/ BHEL PS Region (Supervision)	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. Any addition of the I/O provided after the initial approval of the I/O Counts shall be done on the chareable basis by BHEL PS Region/EDN., if required for the operational compliance. 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. Supervision for the Logic Modification shall be done by PS-Region in consultatation with EDN for DCS on chargeable basis. 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. 7. Bidder to refer customer NIT specification for scope clarity. for AWRS system. 8.Bidder to coordinate with BHEL-EDN before finalisation of field bus based instruments/actuator regarding communication protocol. In General, the COntrol Room Layout Drawing and distance between the different control rooms for AHP systems shall be provided by vendor during detailed engineering to BHEL EDN. Cable Scope(all power control instrumentation cables, FO cables along with cable trays, with glands lungs in AHP are in the scope of bidder.	
5B	Wireless Link between AWRS system / DCS , located in AWRS control room and AHP system / DCS	EPC Bidder	EPC Bidder	EPC Bidder	EPC Bidder for E&C/ BHEL PS Region (Supervision)	Bidder to refer customer NIT specification for scope clarity.	
6	Vibration Monitoring/Analysis System (VMS/VMAS)	EPC Bidder	BHEL EDN	BHEL EDN/EPC Bidder	EPC Bidder for E&C/ BHEL PS Region (Supervision)	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. VMS inputs shall be provided in the attached annexure. In General, the Control Room Layout Drawing and distance between the different control rooms for AHP systems shall be provided by vendor during detailed engineering to BHEL EDN.	
7	Roof Top Solar System	BHEL-SBD/RUDRAPUR	EPC Bidder	EPC Bidder	EPC Bidder	For estimation, the Bidder may take **10%** 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, TP's, 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.	
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 Common AHP application at Main Plant MV Switchgear room					a) 11KV tie feeder for 11 kV switchboard at Sl No 3- Maximum MVA Available **13.995**	For 11kV source feeder mentioned in Sl No 10: Adequate nos. of trays from Main plant MV Swgr room to C row Column 11 or Column 13 depending upon the location of bidder's 11 kV switchboard shall be provided for 11kV cable (bidder's scope). After that space shall be provided in BHEL cable trestle upto nearest planned BHEL cable trestle to AHP bidder facility for cables in bidder scope. Trays and support for this shall be in Bidder's scope. Cable laying is also bidders scope for bidder supplied equipments.
11	List of 11KV O/G feeders available to bidder. Location of switchboard : To be decided by Bidder					a) 11KV Transformer Feeder (11/3.3kV)- **up to 10MVA** b) 11KV Transformer Feeder (11/0433kV)- up to 2500KVA	a) 2 Nos b) 6 Nos
12	List of 3.3KV O/G feeders available to bidder. Location of switchboard : To be decided by Bidder					a) 3.3KV Motor feeder b) 3.3KV Transformer Feeder VFD application	a) 35 Nos b) 1 Nos
13	BHEL free issue HT motors available to bidder					**3.3KV** Motor	23 Nos
	Battery limit for hopper level integration of AHP sytem						
14	ESP Hopper Level	BHEL-RANIPET	BHEL-RANIPET	BHEL-RANIPET	BHEL-RANIPET	ESP hopper High & Low level switches and Level Scanner (First to third Field of ESP Hoppers) and wiring up to Junction Box/ ESP MCC are excluded from bidder scope. However, Cable & Cabling from Junction Box/ 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.	
15	APH/ECO/DUCT/SCR Hopper Level	BHEL-TRICHY	BHEL-TRICHY	BHEL-TRICHY	BHEL-TRICHY	Level switches for Economizer / APH hoppers/Duct Hopper are excluded from bidder scope. However, Cable & Cabling from Level Switches/ Junction Boxis in the scope of bidder. IO's for the above shall be considered by bidder in IO list and all the associated cabling.	

Name of BHEL UNIT for coordination with successful bidder of various system during Engineering

Sl 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 3.3KV and 11KV system along with upstream breaker interface	BHEL-PEM/ BHEL-BHOPAL
2	DCS, VMS, UPS, 24V DC System	BHEL-EDN
3	HT Motors for Water and Slurry Pump	BHEL-Bhopal
4	CCVM System	BHEL-EDN

ANNEXURE-3-ELECTRICAL, CONTROL AND INSTRUMENTATION SCOPE MATRIX FOR						1X800 MW NTPC SIPAT AHP	Rev: 01 Dated: 16-06-2025
SL. NO.	**SCOPE DETAILS**	**INPUT DETAILS**	**ENGINEERING / DESIGN**	**SUPPLY**	**RECEIPT, UNLOADING, STORAGE, ERECTION, TESTING, COMMISSIONING**	**REMARKS**	
5	PA System					**BHEL-EDN**	
6	Roof Top Solar System					BHEL-SBD/Rudrapur	
7	ESP Hopper Level					BHEL-RANIPET	
8	APH/ECO/DUCT/SCR Hopper Level					BHEL-TRICHY	
9	Fire Fighting and FDA system					BHEL-PE&SD	

MACHINE DATA of SIPAT Project : AHP

Sl. No.	CHP / AHP / LHP	OEM Recommended Machine for VMS	Motor/Drive Location	Machine Qty.	Nearest DCS/RIO Room	Cabling distance from Machine to Nearest RIO/DCS Room (meter)	No. of Bearings for Monitoring Vibration (in X & Y direction)	Installation (Horizontal/ Vertical)	Machine RPM (Synchronous Speed for Motors)	Vibration Range (mm/sec - RMS)	Alarm Level (mm/sec - RMS)	Trip Level (mm/sec - RMS)	Bearing Type	Bearing No. (Antifriction Bearing)	Mounting Details	No. of Vibration Sensors	No. of Phase Marker Sensor
1	AHP									These inputs shall be furnished during detailed Engineering.							
2	AHP																
3	AHP																
4	AHP																
TOTAL				0												0	0

Optical Fiber Cabling Distances

S.No	From	To	Cabling Distance
1			
2			

Note/s:

1	Erection of VMS Panels in the respective DCS RIO room, JBs erection near the machine, Sensors and its associated hardware mounting / erection and the sensor cabling upto JB, are in the scope of Vendor.
2	Supply and laying of Instrumentation Cable from VMS JB to Panel will be in Vendor's scope.
3	Vibration Sensor Mounting Details: A: 50 x 50 x 10 mm pad welded on both end shields. B: 60 mm cube vibration pad welded on both end shields C: 40 x 100 mm machined surface provided on DE & NDE bearing housing D: 60 x 60 mm machined surface provided on the thrust bearing + Block provided on Motor NDE side E: 80 x 80 mm machined surface provided on bearing housing
4	Key slot of 30mm (L) X 15mm (W) X 3mm (D) to be provided for Analysis/Diagnostics on Motor Shaft / Coupling Hub.
5	Brackets for Vibration Sensor and Phase Marker Probe mounting will be supplied by BHEL-EDN. Neccesary provisions shall be considered by the Vendor.
6	KKS Tag Nos. for Transducers shall be provided during detailed Engineering.

ANNEXURE-20-A
DECLARATION REGARDING SOURCING OF THE SYSTEMS RELATED TO COMPLETION OF THE ASH HANDLING SYSTEM OF 1X800 MW SIPAT PROJECT

CONFIRMATION / DECLARATION
(To be typed and submitted on the Letterhead of the Company/Firm of the Bidder)

To,
(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir/Madam,

Sub: *Declaration Regarding Sourcing of the Systems Related to Completion of the Ash Handling System of 1x800 MW SIPAT Project*

Ref: NIT / Tender Specification No: _____

As per the Technical Specification of the Customer NIT, Amendments and Clarifications, various systems required for the Ash Handling Plant shall be of the proven design/supplier for similar application.,

For the same, I/We, _____
do hereby confirm that such systems (as applicable) such as **Dewatering Bins, Ash Classifier, and other related Mechanical, Electrical, and C&I systems, etc**. — shall be of proven design/supplier for similar application.

We assure compliance with all technical, quality, and performance standards specified in the tender documents.

Yours faithfully,

Signature of Authorised Signatory
(Name: _____)
(Designation: _____)
(Company Seal)
(Date: _____)

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)
(Formerly National Thermal Power Corporation Ltd.)
(केंद्रीय कार्यालय नोएडा)
Corporate Center NOIDA

Reference : CC-ENGG-8003-001-163-PVC-C-0975 **Date :** 30/05/2025

From : Vikas Khare ADDL. GENERAL MANAGER	**To :** BHARAT HEAVY ELECTRICALS LTD NEW DELHI 110049 IN **Cc :** pmgvijay@bhel.in ksbura@bhel.in

Subject : EPC Package, Sipat-Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No.	:	IS-1-CE-777-301-C0104
Orgn. Drg. No.	:	8003-001-163-PVC-C-0975
Revision No.	:	01
Drg. Title	:	BOTTOM ASH HOPPER: GA & RC DETAILS OF FOUNDATIONS
App. Category	:	CAT-II
Release Date	:	30/05/2025

Scan to verfiy

Comments : hold to be cleared.

CERTIFICATE BY PC(EIL) - PROOF CHECKING CONSULTANT

This is to certify that

1.The documents have been reviewed in line with the guidelines of IS18299:2023.

2.The completeness and correctness of the structural design Documents and drawings have been reviewed.

APPROVAL CATEGORY ASSIGNED: CAT-II

DRG No: 8003-001-163-PVC-C-0975

DRG Title: BOTTOM ASH HOPPER: GA & RC DETAILS OF FOUNDATIONS

Revision No 01

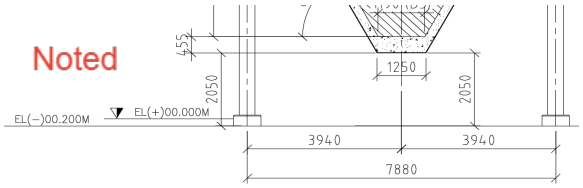
Date : 30/05/2025

Signature of PC(EIL)

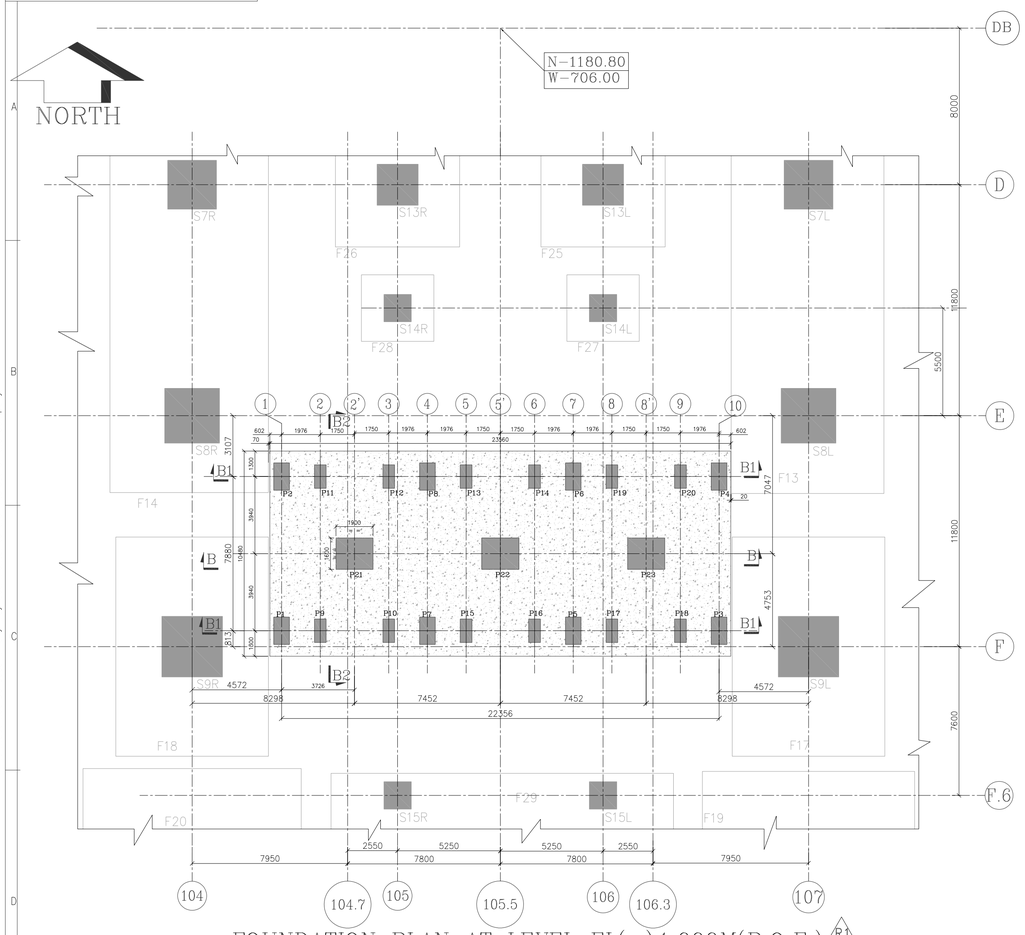
Team Leader

Name : ADITYA VIKRAM MAHESHWARI

Name of Organisation: EIL

COMPLIANCE REPORT		
Project	**1x800 MW NTPC SIPAT STPP, STAGE III**	
Drawing no :	**8003-001-163-PVC-C-0975**	
Drawing Title :	**BOTTOM ASH HOPPER - GA & RC DETAILS OF FOUNDATION**	
Sl no .	**NTPC COMMENTS**	**BHEL REPLY**
1	There will be a gap/ void between footings , It is suggested to increase footing size by 70 mm to avoid void.	Noted. The gap shall be filled with PCC (1:4:8) , indicated in the drawing. Noted
3	Show strip by putting arrow to indicate size (same as shown in B4-B4)	Noted and incorporated. Noted
4	Details as hold shall be marked in complete.	Hold shall be removed after finalization of superstructure drawing.
5	Insert design	Insert details were followed from approved General notes and standrad details of civil work. Notes added. 9545-109-001-PEM-PVC-B-006. Noted
6	Columns should not be demarcated as pedestals and ensure min r/f as per column design as applicable. Further in rectangular columns, PDC to ensure r/f required by 4 is available on all 4 faces.	Noted and incorporated. Column/Pedestal is marked. Noted
7	Show dimension of pedestals in tabular form or mark in plan	Noted and incorproated. Noted
8	Remove Holds (TYP) in all sections	Hold shall be removed after finalization of superstructure drawing.
9	Check -Side face r/f. comments	Noted and corrected. Noted
10	Mark up of ductile detailing bars.	Noted and corrected. Noted
11	Coordinate mark up not included. PDC to ensure inclusion of same.	Indicated, reference taken from Boiler foundation drg No 8003-001-315-PVC-C-0021 Noted
12	PCC grade and extent	Noted and corrected.
15	As per Design calculation Doc. No. 8003-001-163-PVC-U- 0972, Pg No. 14 of 24 base plate design Grid No, 1,4,7&10 accordingly P1,P2,P3,P4,P5,P6, P7 & P8 should come insted of P15 & P16. PDC to check and update accordingly	Noted and corrected. Noted Noted
16	What is the basis of this elevation.	Basis of this elevation is Hopper centre bottom level which is available in mechanical volume calculation sheet 8003-001-163-PVM-U-002 . Snapshot enclosed. Noted 
17	P15 & P16 is shown in section B7-B7 and B5-B5. PDC to check properly and update accordingly	Noted and corrected. Noted
18	P7 & P8 Pedestal base plate & pedestal details are missing	Noted and corrected. Noted
19	Specify based on levels	Noted and provided . Noted
21	Include ref. of mechanical drawing for ash hopper for reviewing this drawing.	Civil desings carried with the avilable Bottom Ash hopper sizing shall incorporate once Mechanical GA is finalised.
22	Ensure approval of these drawings in min cat II.	Noted.
23	300x250x40thk as per design	Details shown in this drawing is pocket, which is kept 50 mm more than the shear key . The gap is filled with grout materials . Noted
24	Bolt orientation w.r.t north shall be correctly marked.	Noted and incorporated. Noted
25	Quantities to be included.	Noted and incorporated. Noted

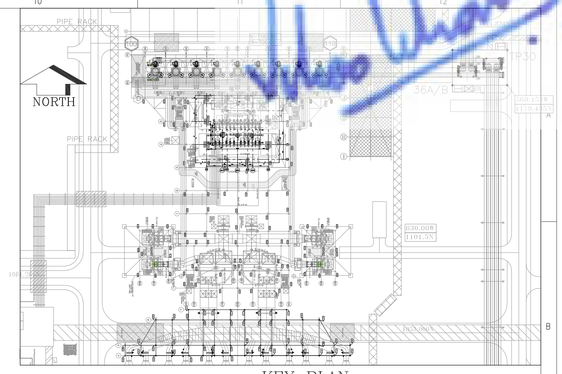
DRAWING NO. IS-1-CE-774-301-C0104



FOUNDATION PLAN AT LEVEL EL(−)4.000M(B.O.F.) R1

PEDESTAL / COLUMN SCHEDULE :

PEDESTAL MARKED	REINFORCENENT DETAIL OF PEDESTAL	PLAN VIEW @ SHEAR KEY / TOP INSERT LOCATION	CROSS SECTION @ PEDESTAL TOP
PEDESTAL P21,P22,P23	32 NOS−32Y (1−01)+(3−02)+(4−03) PER SET R1 (LINKS 10ø−200 C/C OUTSIDE CONFINEMENT ZONE) (LINKS 10ø−90 C/C IN CONFINEMENT ZONE)	C1	SECTION C1−C1
PEDESTAL P9,P10, P11,P12,P13,P14,P15, P16,P17,P18, P19& P20	16 NOS−28Y (1−01)+(1−02)+(1−03)+(1−04) PER SET R1 (LINKS 10ø−200 C/C OUTSIDE CONFINEMENT ZONE) (LINKS 10ø−90 C/C IN CONFINEMENT ZONE)	C2 36ø BOLT 8 NOS 4−12ø (1000mm LONG) 300x300x90 THK. 200 DEEP SHEAR POCKET 10Y@150C/C	SECTION C2−C2
PEDESTAL P1,P2, P3,P4,P5,P6,P7,P8	4 NOS−32ø+ 20 NOS−28ø (1−01)+(2−02)+(3−03) PER SET R1 (LINKS 10ø−200 C/C OUTSIDE ONFINEMENT ZONE) (LINKS 10ø−100 C/C IN CONFINEMENT ZONE)	C3 56ø BOLT 8 NOS 4−12ø (1000mm LONG) 400x400x90 THK. 300 DEEP SHEAR POCKET 10Y@150C/C	SECTION C3−C3



KEY PLAN

NOTES: −

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH CONTRACT TERMS AND CONDITIONS, TECHNICAL SPECIFICATIONS AND SCHEDULE OF ITEMS.
2. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
3. ALL ELEVATIONS ARE WITH RESPECT TO EL. (+)0.00m, FINISHED GROUND FLOOR LEVEL OF TG BUILDING AND MILL BAY, WHICH CORRESPONDS TO RL(+)282.50M. FINISHED GROUND FLOOR LEVEL (PAVING LEVEL) OF BOILER AND ESP AREAS ARE AT (−)0.200m, WHICH CORRESPONDS TO RL(+)282.30M.
4. FOR OTHER NOTES AND STD. DETAILS REF.NTPC DRG NO. 8003−001−315−PVC−C−0451B FOR INSERT CAPACITY PL. REFER 9545−109−001−PEM−PVC−B−006−DRAWING TITLE GENERAL NOTES & STD. DETAILS FOR CIVIL WORKS R1
5. BAR MARKED Y DENOTES TOR STEEL OF GRADE Fe−550D CONFORMING TO IS:1786. HAVING MIN. ELONGATION 14.5%
6. GRADE OF CONCRETE IS M25 UNLESS NOTED OTHERWISE.
7. CLEAR COVER TO OUTERMOST REINFORCEMENT (INCLUDING TIES) SHALL BE AS FOLLOWS: −

	TOP	BOTTOM	SIDE
FOUNDATION	50	50	50
PEDESTAL	−	−	50

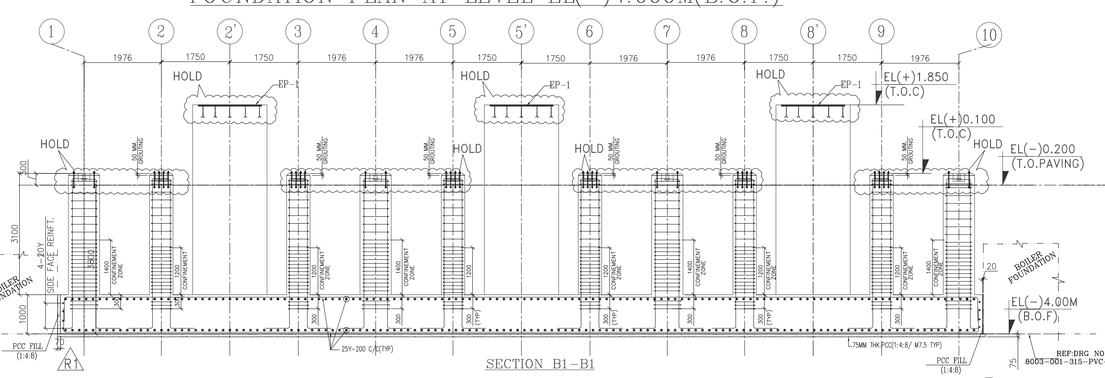
8. ALL HOOKS, BENDS, LAPS AND SPLICES SHALL BE AS PER IS 2502, SP 34 AND IS:13920 UNLESS OTHERWISE INDICATED.
9. LAP LENGTH FOR M25 GRADE CONC. SHALL BE 49d WHERE 'd' IS DIA OF THE SMALLER BAR
10. LAPPING OF BARS SHALL BE SUITABLY STAGGERED AND IN NO CASE MORE THAN 50% BARS SHALL BE LAPPED AT ANY SECTION.
11. NET SAFE BEARING CAPACITY IS 50T/m2 AT EL.(−)4.00M DEPTH FROM FGL. R1
12. REINFORCEMENT SHALL BE SUITABLY ADJUSTED AT SITE TO CLEAR POCKETS, BOLTS, OPENINGS & CUT−OUTS ETC. AS APPROVED BY THE ENGINEER UNLESS SHOWN OTHERWISE IN THE DRAWINGS
13. BACKFILLING AROUND FOUNDATIONS,TRENCHES,SUMPS,PITS,PLINTH ETC. SHALL BE CARRIED OUT WITH NATURAL/MANUFACTURED SAND IN LAYERS NOT EXCEEDING 300MM COMPACTED THICKNESS AND EACH LAYER SHALL BE COMPACTED TO MINIMUM 80% OF RELATIVE DENSITY. BACKFILLING OUTSIDE THE BOILER FOOTPRINT CAN BE CARRIED OUT WITH EXCAVATED SOIL IN LAYERS NOT EXCEEDING 300MM & EACH LAYER SHALL BE COMPACTED TO 90% OF STANDARD PROCTER DENSITY.
14. FOUNDATION BOLT ASSEMBLY TO BE SUPPLIED AT SITE BY BHEL(TRICHY) AND EMBEDDED BY CIVIL CONTRACTOR. CIVIL CONTRACTOR SHALL USE TEMPLATES FOR MAINTAINING EXACT LOCATION AND VERTICAL ALIGNMENT OF BOLTS.
15. BHEL/ERECTOR MUST CHECK AND APPROVE THE ORIENTATION, ALIGNMENT AND SIZES OF FOUNDATION BOLT ASSEMBLY AND SHEAR KEY IN ACCORDANCE WITH DRAWING NUMBER 0−00−281−27791/92/93/94 BEFORE CONCRETING PEDESTAL/ FOUNDATION.
16. PROPER COMPACTION & CURING OF GROUT SHALL BE ENSURED. ALSO 100% CONTACT BETWEEN GROUT & BOTTOM OF BASE PLATE SHALL BE ENSURED.
17. ENCASING OF COLUMNS SHALL BE DONE BY CIVIL CONTRACTOR AFTER GROUTING OF COL BASES ARE COMPLETED BY ERECTION CONTRACTOR.
18. AFTER INSERTING FOUNDATION BOLT IN THE GAP OF PAIR OF ANCHOR CHANNELS, THE FOUNDATION BOLTS ARE TO BE SUITABLY TURNED SO AS TO BUTT AGAINST STOPPER PLATE AND WELDED WITH ANCHOR CHANNEL BEFORE CONCRETING.
19. FAN AND ROTATING MACHINE FOUNDATIONS ARE TO BE ISOLATED FROM BOILER COLUMN FDN.
20. GROUTING CONCRETE IS IN BHEL ERECTION GROUP SCOPE.
21. GROUTING BELOW COLUMN BASES : −
    MANUAL GROUTING, COMPOSITION OF GROUT MIX : − ONE GRADE HIGHER THAN THE FOUNDATION CONCRETE. ENSURE PROPER COMPACTION AND CURING OF GROUT, FREE FLOW NON−SHRINK CEMENT OR ADMIXTURE CAN BE USED FOR GROUTING.
    ENSURE PROPER CONTACT BETWEEN GROUT MIX AND BOTTOM OF BASE PLATES.
22. CLEAR OR REMOVE THE RUST AND DUST OFF THE FOUNDATION MATERIALS (FOR FOUNDATION BOLTS)BEFORE EMBEDMENT, IF ANY.

LEGEND:

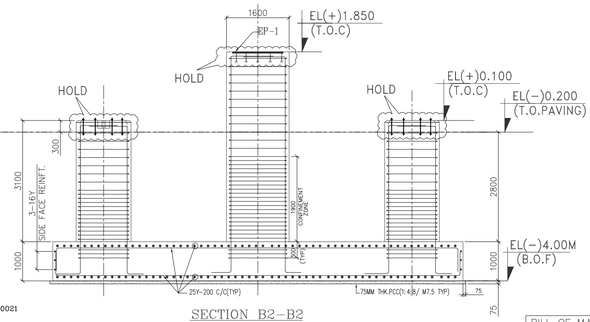
1. N.G.L − NATURAL GROUND LEVEL
2. F.G.L − FINISH GRADE LEVEL
3. TYP − TYPICAL
4. R/F. − REINFORCEMENT
5. THK. −THICKNESS
6. RCC − REINFORCED CEMENT CONCRETE
7. PCC − PLAIN CEMENT CONCRETE
8. TOC − TOP OF CONCRETE
9. BOF − BOTTOM OF FOUNDATION
10. FFL − FINISH FLOOR LEVEL

ENGINEERING REFERENCE DRAWINGS : − R1

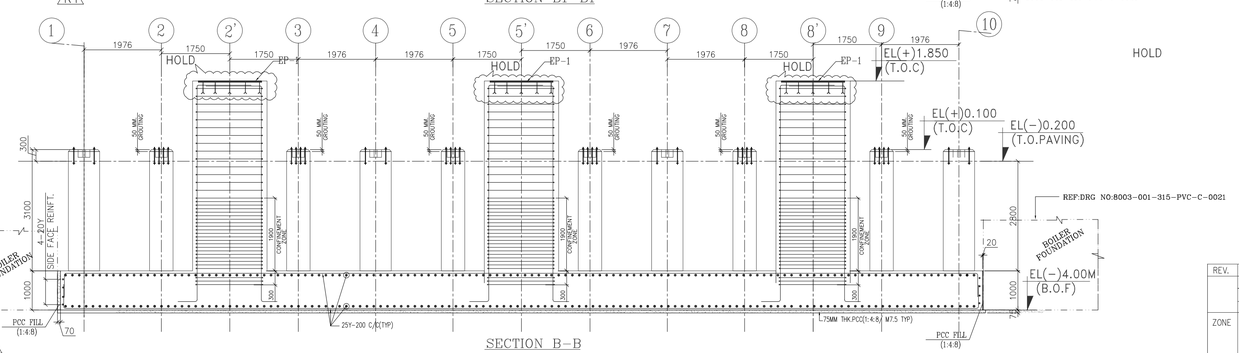
1. 8003−001−301−POC−F−001 − PLOT PLAN
2. 8003−001−315−PVC−C−0021 −BOILER FOUNDATION G.A. OF FOUNDATIONS AND PEDESTALS− UNIT−1
3. 8003−001−315−PVC−C−0023 −BOILER FOUNDATION R.C. OF FOUNDATIONS AND PEDESTALS− UNIT−1
4. 8003−001−163−PVM−U−002− BOTTOM ASH HOPPER VOLUME CALCULATION
5. 8003−001−163−PVC−C−002− BOTTOM ASH HOPPER−GA OF DETAILS OF SUPERSTRUCTURE
6. 8003−001−163−PVM−B−021− GAD OF BOTTOM ASH HOPPER



SECTION B1−B1



SECTION B2−B2



SECTION B−B

BILL OF MATERIALS R1	
RCC QUANTITY	327 CUM
REINFORCEMENT QUANTITY	38.46 MTON
REINFORCEMENT QTY BREAK UP	
REINF. DIA	QTY
10MM R/F.	3.66 MTON
20MM R/F.	0.4 MTON
25MM R/F.	23 MTON
28MM R/F.	6.8 MTON
32MM R/F.	4.6 MTON
TOTAL	38.46 MTON

BHEL−INDUSTRIAL SYSTEMS GROUP (CIVIL)
THIS DRAWING MARKED (✓) IS RELEASED FOR
☑ COMMENTS/APPROVAL ☐ FABRICATION
☐ PLANNING ☐ INFORMATION
☐ CONSTRUCTION ☐ AS BUILT DRAWING
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
ISSUED BY
NAME RAVI KUMAR PONNA
SIGNATURE
DATE 17.05.2025

JOB No.
STATUS OF DRAWING
DISTRIBUTION OF PRINTS QTY.

OWNER /CONSULTANT
एन टी पी सी NTPC
NTPC Limited
ENGINEERING DIVISION
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT
1X800 MW NTPC SIPAT STPP, STAGE−III
(EPC SCOPE)

BHARAT HEAVY ELECTRICALS LTD.
INDUSTRIAL SYSTEMS GROUP, BANGALORE

	NAME	SIGN	DATE	NO.OF VAR
DRN.	VIPINDAS	−SD−	21.03.2025	
CHD.	ABD	−SD−	21.03.2025	
APPD.	RKPO	−SD−	21.03.2025	

REV.		NAME	SIGN	DATE
	DRN.			
	CHD.			
	APPD.			
ZONE				

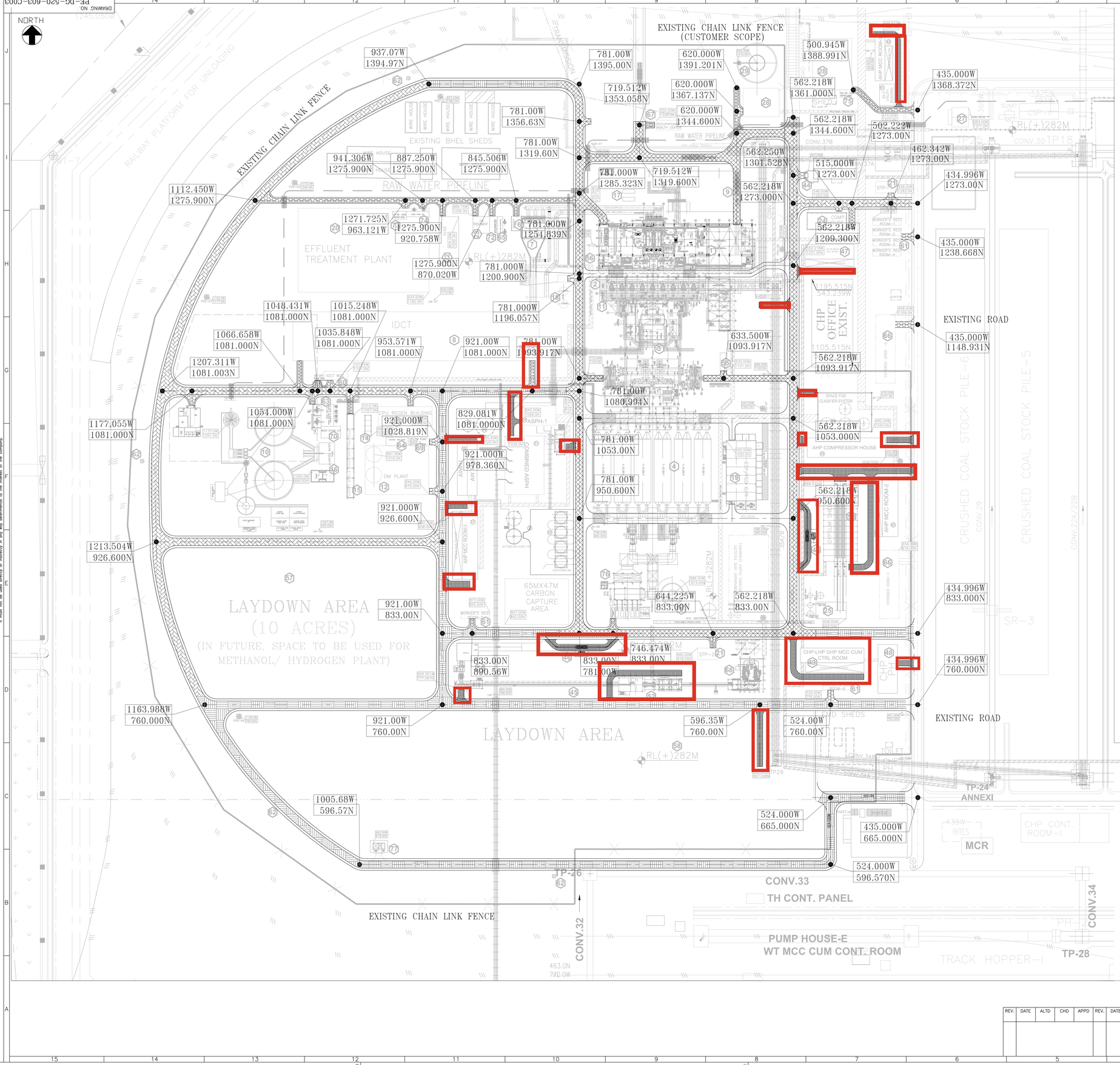
REV.		NAME	SIGN	DATE
	DRN.			
	CHD.			
	APPD.			
ZONE				

REV.		NAME	SIGN	DATE
1	DRN.	VIPINDAS		30.04.25
	CHD.	ABD		30.04.25
	APPD.	RKPO		30.04.25
ZONE	REVISED AS PER COMMENTS AND MARKED AS R1			

DIRECTORY :
FILE NO. :
SCALE 1:100
WEIGHT(Kgs.)
TITLE : BOTTOM ASH HOPPER − GA & RC DETAILS OF FOUNDATION
NTPC DRAWING NO. 8003-001-163-PVC-C-0975
ITEM NO.
NO.OF ITEMS
DRAWING NO. 01IS-1-CE-774-301-C0104
REV.
SHEET NO. 1
NO.OF SHTS. 1

REF.DRG.NO. | SIGN & DATE | INVENTORY NO.

FORM−66.101



NOTES: –

1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. ALL ELEVATIONS ARE MARKED AS REDUCED LEVEL(RL)
3. ROAD CONSTRUCTION SHALL BE AS PER IRC: 15–2011 & MORTH SPECIFICATIONS.
4. LONGITUDINAL SLOPE OF ROAD SHALL NOT MORE THAN 1V:30H.
5. INTERNAL ROADS/APPROACH ROADS SHALL BE SHOWN IN RESPECTIVE FACILITIES/BUILDING AREA DRAWING AND SHALL BE UPDATED PROGRESSIVELY.
6. SITE SHALL DETERMINE ACTUAL CBR VALUE BY REMOULDED SAMPLE IN SOAKED CONDITION AND IF THE ACTUAL CBR VALUE FALLS BELOW 5% THE SAME TO BE CONVEYED TO DESIGN ENGINEER FOR REVIEW.
7. SITE TO ENSURE LAYING OF STP/ETP NETWORK & FIRE PROTECTION TRENCHES/PIPES BEFORE CONSTRUCTION OF ROAD.
8. IF THERE IS ANY SITE CONSTRAINT, ROAD SIZE MAY BE SUITABLY ADJUSTED AS PER DIRECTION OF ENGINEER IN–CHARGE.
9. EXPANSION JOINTS SHALL BE PROVIDED AT CULVERT ABUTMENTS.
10. ROAD CREST LEVEL SHALL BE 350 MM ABOVE THE FINISHED GROUND LEVEL(FGL).
11. ALL EXCAVATION WORK, BACK FILLING, LAYING OF VARIOUS LAYERS OF ROAD CONSTRUCTION SHALL BE AS PER TECHNICAL SPECIFICATIONS.
12. THE SURROUNDING GROUND SHALL BE ADEQUATELY SLOPED TOWARDS THE ADJACENT DRAIN SUITABLY.
13. NO GRADIENT (SLOPE) SHALL BE PROVIDED ON EITHER SIDE OF TURNINGS/BENDS.
14. ALL THE COORDINATES FOR THE CL. OF ROADS INDICATED IN THIS DRAWING SHALL BE VERIFIED AT SITE BEFORE CONSTRUCTION.
15. ALL INTERNAL ACCESS/APPROCH ROADS TO BUILDINGS/ STRUCTURES SHALL BE CONSTRUCTED LATER, AFTER COMPLETION OF CIVIL WORKS OR AS DIRECTED BY THE ENGINEER.
16. SITE SHALL BE STRIPPED DOWN UP TO A MAXIMUM DEPTH OF 300 MM BELOW EXISTING GROUND LEVEL SO AS TO EXCLUDE ALL DEBRIS, GRASS, VEGETATION, BUSHES, TREES INCLUDING ROOTS & ORGANIC MATERIALS ETC. BEFORE TAKING UP FILLING/CUTTING. STRIPPED SURFACE SHALL BE CONSOLIDATED BY ROLLING AS DIRECTED BY THE ENGINEER SUBJECT TO A MINIMUM OF SIX PASSES OF 8–10 TONNES ROLLER.
17. FILLING SHALL BE DONE WITH APPROVED QUALITY OF COMPULSARILY EXCAVATED SOIL EARTH AS PER SPECIFICATION AND AS DIRECTED BY ENGINEER–IN–CHARGE.
18. EARTH WORK IN FILLING SHALL BE DONE IN HORIZONTAL LAYERS NOT EXCEEDING 300MM IN COMPACTED THICKNESS SO AS TO ACHIEVE ATLEAST 95% MAXIMUM DRY DENSITY AS PER IS:2720, PART–VII.
19. TURNING CIRCLE RADIUS ADEQUATE FOR 16 WHEEL TRUCK SHALL BE PROVIDED AT ALL RELEVANT POINTS INCLUDING APPROACH (ENTRY/EXIT) AND ACCESS ROAD FOR TRUCK MOVEMENT AT LOADING/UNLOADING /WEIGHMENT FACILITIES OF LIMESTONE, GYPSUM, ASH, BIOMASS FOR EFFICIENT AND SAFE MOVEMENT OF TRUCK.

ENGINEERING REFERENCE DRAWINGS :–

1. 8003–001–301–POC–F–001 –PLOT PLAN

CONSTRUCTION REFERENCE DRAWINGS :–

1. 8003–001–301–POC–C–101 –SITE LEVELING & GRADING
2. 8003–001–301–PVC–C–0037 –CROSS SECTION DETAILS OF ROADS
3. 8003–001–301–POC–C–111 –LAYOUT OF DRAINS
4. 8003–001–301–PVC–C–0157 –PLANT DRAINS DETAILS

LEGEND–

- 7.50M WIDE RIGID PAVEMENT ROAD (PRIORITY–1)
- 7.50M WIDE RIGID PAVEMENT ROAD (PRIORITY–2)
- 7.50M WIDE RIGID PAVEMENT ROAD (PRIORITY–3)
- 3.75M WIDE RIGID PAVEMENT ROAD (APPROACH ROAD)
- ISG SCOPE ROAD

PQC QUANTITY: 11100 CUM

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD

REV.	DATE	ALTD	CHD	APPD
01	14.01.25	SN	AK/SM	ABHAY K.

1. DRG. REVISED INLINE WITH NTPC COMMENTS RCVD. LETTER NO. CC–ENGG–8003–001–301–POC–C–107 RCVD. DTD. 12/11/2024.

NTPC DRG. NO. 8003–001–301–POC–C–107

OWNER: NTPC — **NTPC Limited** (A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 1X800 MW NTPC SIPAT STPP, STAGE–III (EPC SCOPE)

JOB NO. 520

STATUS: CONTRACT

DISTRIBUTION

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA (U.P.)

DEPT CODE: C

	NAME	SIGN	DATE
DRN	SN	Sd/–	06.11.2024
DESN	AK	Sd/–	06.11.2024
CHD	SM	Sd/–	06.11.2024
APPD	ABHAY K.	Sd/–	06.11.2024

TITLE: LAYOUT OF ROADS

MPL	ELEC	C&I	MSE	MAX	DEPT	SCALE –	DRAWING NO.
					SIGN		PE–DG–520–603–C003
					DATE		SHEET 1 OF 1 REV. 00

FORMAT SIZE A0

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)
NTPC Limited
(A Govt. of India Enterprise)
(Formerly National Thermal Power Corporation Ltd.)
(केंद्रीय कार्यालय नोएडा)
Corporate Center NOIDA

Reference : CC-ENGG-8003-001-301-POC-C-111 **Date :** 01/03/2025

From : ALKA UPADHYAY DY. GENERAL MANAGER	**To :** BHARAT HEAVY ELECTRICALS LTD NEW DELHI 110049 IN **Cc :** pmgvijay@bhel.in ksbura@bhel.in

Subject : EPC Package, Sipat-Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No.	:	PE-DG-520-603-C005
Orgn. Drg. No.	:	8003-001-301-POC-C-111
Revision No.	:	01
Drg. Title	:	PLANT DRAIN LAYOUT
App. Category	:	CAT-II
Release Date	:	01/03/2025

Scan to verfiy

Comments : Comments are marked on the document.

CERTIFICATE BY PC(EIL) - PROOF CHECKING CONSULTANT

This is to certify that

1.The documents have been reviewed in line with the guidelines of IS18299:2023.

2.The completeness and correctness of the structural design Documents and drawings have been reviewed.

APPROVAL CATEGORY ASSIGNED: CAT-II

DRG No: 8003-001-301-POC-C-111

DRG Title: PLANT DRAIN LAYOUT

Revision No 01

Date : 28/02/2025

Signature of PC(EIL)

Team Leader

Name : GYASUDDIN

Name of Organisation: EIL

1x800 MW NTPC SIPAT STPP, STAGE-III	
COMPLIANCE RESOLUTION SHEET	
Drg./Doc. No.	NTPC Drg No. 8003-001-301-POC-C-111&8003-001-301-PVC-C-0157 / BHEL Drg. No. PE-DG-520-603-C005 & C006, Rev 0 NTPC Doc No.8003-001-301-PVC-U-0039_0 / BHEL Doc. No. PE-DC-520-603-C003,Rev 0
Drg./Doc. Title	PLANT DRAIN & SECTIONS
Transmittal No.	CC-ENGG-8003-001-315-PVC-C-0021/CC-ENGG-8003-001-315-PVC-C-0023/CC-ENGG-8003-001-315-PVC-U-0039, dated 19.11.2024

S.NO.	NTPC COMMENTS	BHEL REPLY
1	COMMENTS ON DESIGN OF DRAIN, PLOT PLAN & LAYOUT OF ROAD MAY PLEASE BE INCORPORATED.	NOTED
2	CONNECTION DETAILS OF PROPOSED DRAIN TO EXISTING DRAIN TO BE PROVIDED.	NOTED & INCORPORATED
3	DRAINAGE ARRANGEMENT FOR LAYDOWN AREA NEAR SWITCHYARD TO BE PROVIDED.	Drainage arrangement has been provided as per the drain layout in contract stage.
4	Culvert to be mandatorily provided at crossings wherever vehicular /material movement is envisaged	NOTED & REVISED. BOX CULVERTS HAVE BEEN ADDED.
5	STARTING & END POINT OF EACH DRAIN TO BE DEMARCATED ON DRAWING.	NOTED & INCORPORATED
6	CULVERT FOR CROSSING THE ROAD BY DRAIN TO BE DEMARCATED.	NOTED & INCORPORATED
7	DESIGN OF D1A, D14A & D14B TO BE PROVIDED.	All drains have been designed considering the full catchment area of the Contract Stage-III layout. The addition of tertiary drain from building/structure/system shall be directly connected to nearby primary/secondary drain with nominal size & shall be covered in the respective grade slab of the buildings.
8	DRAIN NO. D18A, D12B & D30A ARE NOT MARKED IN DRAIN LAYOUT & REQUESTED TO REVIEW THE SAME.	Noted & Revised.
9	ANY CABLE CROSSINGS THROUGH DRAIN ARE TO BE DEMARCATED	The Cable crossing details shall be covered in Plants Roads drg-8003-001-POC-C-107
10	Suitable drain network has been provided and shall be kept functional during full construction phase to dispose off accumulated water during rains and prevent accumulation of water and flood in the plant area ,	NOTED.
11	Suitable arrangements have been made so that that effluents (plant water) and storm water do not get mixed.	NOTED.
12	Clear water shall be routed to CW channel and contaminated water diverted to Area Pit (s) / Sump(s).	NOTED.
13	Culverts/local humps or bridges, for routing ash pipes at crossing for nallah /water body crossing /roads/rail lines etc. have been provided.	NOTED.
14	OUTFALL POINT TO BE PROVIDED AT A SINGLE POINT CROSSING PROPOSED ROAD	Outfall point has been merged at possible junction i.e., at Outfall point-D. But at other junction locations it is not possible to merge the drains at the depth of the drain will be more than the drain at outfall points
15	ROAD & DRAIN TO ROUTED OUTSIDE OF HEAVY VEHICLE SHED.	NOTED & REVISED.
16	CONNECTING ROAD FROM ETP TO MAIN PLANT AREA ALONG WITH DRAIN TO BE PROVIDED.	NOTED & REVISED.
17	OUTFALL OF THIS AREA DRAINAGE TO THE EXISTING DRAIN BEFORE JOINING THE EXISTING ROAD	This area is under the scope of BHEL-ISG. The drain details will be provided in their respective drg. The legend of roads in this area is marked in Roads drg no.8003-001-POC-C-107
18	DRAINAGE DETAILS FOR THIS AREA TO BE PROVIDED	This area is under the scope of BHEL-ISG. The drain details will be provided in their respective drg. The legend of roads in this area is marked in Roads drg no.8003-001-POC-C-107

S.NO.	NTPC COMMENTS	BHEL REPLY
19	EXISTING DRAIN TO BE CONNECTED ACCORDINGLY DESIGN TO BE REVISED	From design point of view the quantum of water coming from existing unit has not been considered. The provided drain layout is in line with darin layout in the contract stage . If the same drain is essentially to be connected with Stage-III drain, same shall be suitably done at site.
20	Suitable arrangement to be provided for 132kV cable trench cross-over	Culvert of Size 2000(W)x2000(D) has been additionally provided to facilitate any cable/ pipe crossing purpose.
21	DRAIN NO. TO BE DEMARCATED	NOTED & REVISED.
22	CONNECTING ROAD FROM ETP TO MAIN PLANT AREA ALONG WITH DRAIN TO BE PROVIDED.	NOTED & REVISED.
23	Site levelling & Grading may please be submitted.	NOTED. THE SAME HAS BEEN UPDATED.
24	Surcharge to be revised to 20KN/m2	NOTED & REVISED.
25	COLUMN FOR DRAIN TYPE TO BE SHOWN.	NOTED & REVISED.
26	INVERT LEVEL OF EXISTING DRAIN TO BE VERIFIED PRIOR TO FINALISATION OF INVERT LEVEL OF PROPOSED DRAIN.	NOTED. THE SAME HAS BEEN RECHECKED AND FOUND IN ORDER. THE TABLE FOR DRAIN HAS BEEN UPDATED ACCORDINGLY.
27	BHEL REQUESTED TO REVISED IN LINE WITH COMMENTS ON DESIGN DOCUMENTS.	NOTED & REVISED ACCORDINGLY
28	TOP REINFORCEMENT TO BE SHOWN	NOTED & REVISED.
29	SIZE & THICKNESS FOR CATCH PIT TO BE PROVIDED.	NOTED & REVISED.
30	WEEP HOLE ON BOTH SIDE OF DRAIN TO BE PROVIDED FOR ALL DRAIN.	NOTED & REVISED.
31	DRAIN DETAILS FOR MAIN PLANT AREA HAVING ONE SIDE WITH RCC PAVING TO BE PROVIDED.	Typical Cross section of the drain around BTG is available in Road Cross section detail drg no. 8001-001-301-PVC-C-0037

DRAWING NO. PE-DG-520-603-C001

FIRST ANGLE PROJECTION | ALL DIMENSIONS ARE IN MM

NORTH

EXISTING CHAIN LINK FENCE

RAILWAY PLATFORM FOR UNLOADING LIME AND GYPSUM HANDING

PROPOSED PLATFORM FOR UNLOADING LIME AND GYPSUM HANDING

EXISTING BHEL SHEDS

WIRE HOUSE

RAW WATER PIPELINE

EFFLUENT TREATMENT PLANT

STORAGE AREA FOR REJECT COAL BUCKET

IDCT

DM PLANT

LAYDOWN AREA
(10 ACRES)
(IN FUTURE, SPACE TO BE USED FOR METHANOL/ HYDROGEN PLANT)

LAYDOWN AREA
(20ACRES)
(IN FUTURE, SPACE TO BE USED FOR METHANOL/ HYDROGEN PLANT)

EXISTING CHAIN LINK FENCE (CUSTOMER SCOPE)

LMZ ENERGY LTD.

ROAD UNDER BRIDGE (12M WIDE/4.8M HEIGHT)

ASH SILOS STAGE-III

EXISTING ROAD

CHP OFFICE EXIST.

AHP COMPRESSOR HOUSE

CRUSHED COAL STOCK PILE-6

CRUSHED COAL STOCK PILE-5

CONV.29

CONV.22A/22B

CHP-LHP GHP MCC CUM CTRL ROOM

AHP/CHP/LHP MCC ROOM

MAIN MCC ROOM

EMD SHED

TOILET

PARKING SHED

EXISTING HEAVY VEHICLE PARKING SHED

MCR

CHP CONT. ROOM-I

TP-24 ANNEXI

TP-26

TP-26A

TP-27

TP-28

CONV.33

TH CONT. PANEL

CONV.32

CONV.32A

CONV.34

PUMP HOUSE-E

WT MCC CUM CONT. ROOM

WAGON TIPPLER

TRACK HOPPER-I

CHP PUMP HOUSE-B

S&T CONT. ROOM

PH-2

PH-3

CONV.13A/13B

Radius=800M

TO BE CONSTRUCTED WITH EXISTING ROAD

ASH SLURRY PIPE (STAGE-I)

ASH SLURRY PIPE (STAGE-II)

TENTATIVE TAPPING LOCATION FOR ST-II AWPS FROM EXITING ST-I AND ST-II AWPS LINES

PROPOSED DIVERSION ROAD 40M WIDE

LABOUR REST ROOM

CISF PATROL ROAD

SR-3

EXISTING DRAIN TO BE DISMANTLED BEFORE CONSTRUCTION OF ROAD & DRAIN AND A BOX CULVERT TO BE PROVIDED OF SIZE 3000(W)x2500(D) BEFORE CONSTRUCTION OF ROAD.

DETAIL-A

1. Draining to be made legible, Drains should be more prominently visible and other facilities should be lightened.
2. Drain Width, Slope is to be indicated in the drawing
3. Drain Bed level is to be indicated in the drawing at all junction and where there is change in drain width
4. Drain tie in points with existing drain to be clearly shown and peak flow to be indicated at tie in points
5. Existing drain bed levels and drain width to be indicated at tie in point
6. Adequacy of existing drain in which tie-in is being taken shall be done to establish that the there is no flooding in the concerned area.

Rainfall intensity to be established for 50 year return period (minimum 75mm/hr shall be considered) in line with Technical specification

NOTES:

1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. EL (±)0.00 CORRESPOND TO RL(+)282.50M ABOVE MSL.
3. RAINFALL INTENSITY CONSIDERED IN DESIGN IS 75 MM/Hr AS PER SPECIFICATION
4. CEMENT SHALL BE AS PER SPECIFICATION.
5. REINFORCEMENT STEEL SHALL BE OF GRADE Fe 500/500D TMT BARS CONFORMING TO IS 1786.
6. AT BENDS DRAIN SHALL BE LAID WITH THE SAME RADIUS AS THAT OF ASSOCIATED ROAD.
7. INTERNAL DRAINS/APPROACH DRAINS SHALL BE SHOWN IN RESPECTIVE FACILITIES/BUILDING AREA DRAWING AND SHALL BE UPDATED PROGRESSIVELY.
8. LENGTH/ALIGNMENT OF THE SURFACE DRAIN & CULVERTS INDICATED ARE APPROXIMATE AND MAY BE SLIGHTLY ADJUSTED TO SUITE SITE CONDITION AND APPROVED BY ENGINEER IN-CHARGE.
9. FOR STRUCTURAL DETAILS OF DRAIN, CULVERTS REF. DRAWING NO PE-DG-520-603-C006 BOX CULVERT SHALL BE PROVIDED FOR ALL ACCESS ROADS/APPROACH ROAD TO FACILITIES.
10. LOCATION OF BOX CULVERT CAN BE SHIFTED SUITABLY TO SUITE SITE CONDITION AND APPROVED BY ENGINEER-IN-CHARGE
11. WIDTH OF THE BOX CULVERT SHALL BE AS PER IMMEDIATE CONNECTING DRAIN ON DOWNSTREAM OF BOX CULVERT.
12. ALL THE PERIPHERAL DRAINS OF BUILDINGS/FACILIITES TO BE SUITABLY CONNECTED TO THE NEAREST PLANT DRAIN AT SITE.
13. NO EFFLUENT DRAINS SHALL BE CONNECTED WITH THE STORM WATER DRAINS.
14. BOX CULVERTS (IN ADDITION TO THOSE INDICATED IN THIS DRAWING) WHEREVER REQUIRED FOR ACCESS/APPROACH TO BUILDINGS/FACILITES/STRUCTURES ACROSS DRAINS SHALL BE SUITABLY PROVIDED AT SITE.
15. DRAIN ON BOTH SIDES OF INDIVIDUAL APPROACH ROADS OF VARIOUS BUILDINGS/STRUCTURES/FACILITES TO THE MAIN ROAD SHALL BE SHOWN IN RESPECTIVE DRAWINGS.

R1

REFERENCE DRAWINGS:-

1. 8003-001-301-POC-C-101 -------SITE LEVELLING WORKS - PLAN & SECTIONS
2. 8003-001-301-POC-C-107 --------LAYOUT OF ROADS
3. 8003-001-301-PVC-C-0037 --------CROSS SECTION DETAILS OF ROADS
4. 8003-001-301-PVC-C-0157 -------PLANT DRAINS DETAILS

BHEL-PROJECT ENGINEERING MANAGEMENT (CIVIL)
THIS DRAWING MARKED [✓] IS RELEASED FOR
[✓] COMMENTS/APPROVAL
[ ] PLANNING/INFORMATION
[ ] CONSTRUCTION
STAMP ALL PREVIOUS REVISION AS SUPERSEDED
PREPARED BY: SOMNATH MISHRA
SIGNATURE
DATE: 08.11.2024

REV.	DATE	ALTD	CHD	APPD
1	18.02.25	R.K.	A.P.	S.M.

CUSTOMER COMMENTS INCORPORATED AND REVISED AS PER THE LATEST ROAD LAYOUT.

NTPC DRG. NO. 8003-001-301-POC-C-111

OWNER: NTPC

NTPC Limited
(A GOVERNMENT OF INDIA ENTERPRISE)

PROJECT: 1X800 MW NTPC SIPAT STPP, STAGE-III (EPC SCOPE)

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA (U.P.)

DEPT CODE		NAME	SIGN	DATE
C	DRN	RK	Sd/-	06.11.2024
	DESN	AP	Sd/-	06.11.2024
	CHD	SM	Sd/-	06.11.2024
	APPD	ABHAY K.	Sd/-	06.11.2024

JOB NO. 520
STATUS CONTRACT
DISTRIBUTION

TITLE: LAYOUT OF DRAINS

MPL	ELEC	C&I	MSE	MAX	DEPT. SIGN DATE	SCALE -

DRAWING NO. PE-DG-520-603-C005

SHEET 1 OF 1 REV. 1

FORMAT SIZE A0

ELECTRONIC FILE NAME : 8003-001-301-POC-F-001-02.dwg

SIPAT VILLAGE
NAWADIH VILLAGE
JANJI VILLAGE
TO BILASPUR
TO KATNI JN.
TO DIPKA MINES
FROM DIPKA MINES
KHARANG LEFT BANK CANAL
KHARANG LEFT BANK CANAL
GREEN BELT
GREEN BELT
GREEN BELT
FRUIT ORCHARD
RAW WATER PIPELINE
765KV SWITCHYARD
400KV SWITCHYARD
132KV SWITCHYARD
400KV SWYD CONT. ROOM
SWYD. CONTROL BUILDING (NAN)
MISC. SWGR
11KV SWGR
ADDITIONAL BAY FOR STAGE-III
7650/400KV TRANSMISSION LINES CORRIDOR
RAW WATER RESERVOIR (STAGE-I)/(PART-I)
MAX. WATER LEVEL = RL(+) 280.0M
TOP OF EMBANKMENT = RL(+) 282.0M
RAW WATER RESERVOIR (STAGE-I)/(PART-II)
MAX. WATER LEVEL = RL(+) 280.5M
TOP OF EMBANKMENT = RL(+) 282.0M
RAW WATER RESERVOIR (STAGE-II)
MAX. WATER LEVEL = RL(+) 280.5M
TOP OF EMBANKMENT = RL(+) 282.0M
RED LEVEL = RL(+) 272.0M
FGL(+)281.5M
LAYDOWN AREA (10 ACRES)
ON PERMANENT BASIS TO BE USED FOR MATERIALS STORAGE PURPOSE
LAYDOWN AREA (60 ACRES)
ON PERMANENT BASIS TO BE USED FOR EMERGENCY MATERIALS PURPOSE
TRACK HOPPER-I
CRUSHED COAL STOCK PILE-1
CRUSHED COAL STOCK PILE-2
CRUSHED COAL STOCK PILE-3
CRUSHED COAL STOCK PILE-4
CRUSHED COAL STOCK PILE-5
CRUSHED COAL STOCK PILE-6
STOCK PILE-1
STOCK PILE-2
STOCK PILE-3
STOCK PILE-4
STOCK PILE-5
STOCK PILE-6
SR-1
SR-2
SR-3
CT-1A
CT-1B
CT-2A
CT-2B
CT-3A
CT-3B
CT-4A
CT-4B
CT-5A
CT-5B
T G HALL
SPACE FOR F.G.D.
SPACE FOR UNIFORM
CONSTRUCTION STORES
FIRE WATER TANK
PH-D
PH-C
PH-B
PH-A
OHT
ESP
ASPH
WTP
DM PLANT
CHP
AHP
SWGR
SWITCH YARD
TRANSFORMER YARD
ACCESS ROAD
ROAD OVER BRIDGE
RAILWAY LINE
RAILWAY LINE OF STAGE-III
7650/400KV TRANSMISSION LINES CORRIDOR
132KV TRANSMISSION LINE
400KV TRANSMISSION LINE
WIND ROSE (CHAMPA)
N
NW
NE
W
E
SW
SE
S

a. 1 No 350Nb Aux steam pipe with 150mm thk insulation
b. 1 No LDO (S)- 400NB
c. 1 No LDO (R)-200 Nb
d. 1 No utility pipe (IA/SA/SW/PW) each- 80Nb

4X600W & 3X300W CABLE TRAYS on AHP RACK for BHEL use

1 nos. ETP MRS Waste Water pipe (CS)- 100 NB

A. 1 nos. ETP APH Waste Water pipe (CS)- 400 NB
B. 1 nos. ETP APH Waste Water pipe (CS)- 40 NB

1 nos. ETP ESP Waste Water pipe (CS)- 100 NB

IDENTIFICATION NUMBER	DESCRIPTION
1	POWER HOUSE BUILDING INCLUDING ELECTRICAL BAY
2	COAL MILL
3	STEAM GENERATOR
4	ESP
5	CHIMNEY
6	DM PUMP HOUSE
7	DM FOREBAY AND CHANNEL
8	DCPT
9	TRANSFORMER YARD
10	PT PLANT
11	MRC
12	DM PLANT INCLUDING DM TANKS
13	CPU
14	DM PUMP HOUSE
15	CLARIFIED WATER & SERVICE WATER PUMP HOUSE
16	SERVICE WATER TANK
17	DG SET
18	CST TANKS & PUMP HOUSE
19	ESP CUM FGD CONTROL ROOM
20	EFFLUENT TREATMENT PLANT
21	STP (3 Nos.)
22	CLOZ SYSTEM
23	CW TREATMENT
24	COMPRESSOR HOUSE
25	GYPSUM DE-WATERING BUILDING
26	FGMV EXTENSION FOR STAGE -III WITH C/R
27	DECANTED WATER SUMP
28	CHP WATER TREATMENT SYSTEM
29	REJECTOR CLARIFIER
30	ASH SLURRY PUMP HOUSE
31	COMBINED ASH SLURRY PUMP HOUSE
32	ASH WATER PUMP HOUSE
33	SETTING & SURGE TANK
34	SETTING & SURGE TANK FOR DEMINERING BW
35	DEMINERING BW SYSTEM
36	IW SLUC
37	AHP MCC ROOM-1
38	AHP COMPRESSOR HOUSE
39	CLARIFIER SYSTEM
40	AHP MCC ROOM-2
41	SLO UTILITY BUILDING
42	AHP MCC ROOM-3
43	FLY ASH & FINE FLY ASH SILOS
44	SAFETY CONTROL ROOM
45	LIME STONE HANDLING
46	WDCH BRIDGE
47	CHP BUNKER MCC ROOM
48	CHP PUMP HOUSE
49	CHP-HAP SHP MCC CUM CTRL ROOM
50	BIOMASS MCC
51	BIOMASS MAIN STORAGE SILO
52	LIMESTONE CRUSHER HOUSE
53	GYPSUM STORAGE SHED
54	RMV / SURFACE FEEDER
55	FIRE BOOSTER PUMP HOUSE
56	NITROGEN STORAGE AREA
57	LAYDOWN SPACE-1
58	LAYDOWN SPACE-2
59	LAYDOWN SPACE-3
60	DIST MCC
61	SHED FOR D&M & CONSTRUCTION WORKERS (8 Nos.)
62	WATCH TOWER
63	PT PLANT, CLARIFIED WATER & SERVICE WATER P/H FMCC
64	CPU RESIDENTIOIN & DM PLANT FMCC
65	CW P/H, CLOZ & CW TREATMENT PLANT FMCC
66	CHARGE SHED (2 Nos.)
67	OCCUPATIONAL HEALTH CENTER
68	RAIL MILL BUILDING
69	DELETED
70	WATER SYSTEM CONTROL ROOM
71	DIST C/R + BATTERY ROOM
72	DEPU/ELECTRIFI FIC ROOM + BATTERY ROOM
73	STP RO ROOM + BATTERY ROOM (DELETED)
74	STP FMCC ROOM (DELETED)
75	CISF RO ROOM+BATTERY ROOM
76	ABSORBER
77	VAC CHARGER STORAGE SHED

NOTES:-
1. ALL DIMENSIONS ARE IN MM & ELEVATIONS IN METERS UNLESS STATED OTHERWISE.
2. FINISH FLOOR LEVEL = RL (+)282.50 M, CORRESPONDS TO PLANT EL 0.0M (GROUND FLOOR OF TG BUILDING)
FFL IN BOILER AREA SHALL BE RL (+)282.30M AND FFL IN TRANSFORMER YARD SHALL BE RL (+)282.40M.
3. BOILER AREA, ESP AREA & FGD LAYOUT IS SHOWN INDICATIVE ONLY FOR SPACE ALLOCATION PURPOSE. FOR DETAILS, PL. REFER RESPECTIVE DRAWING OF BHEL TROY/ & RAMPET.
4. LOCATION/SIZE/LAYOUT OF VARIOUS FACILITES/BUILDINGS ARE TENTATIVE ONLY AND SHALL BE FINALISED DURING FURTHER DETAIL ENGINEERING.
5. THE CULVERTS SHOWN ARE INDICATIVE, ALL THE CULVERT & HUME PIPES SHALL BE FINALIZED AFTER FINALIZATION OF PIPE/ CABLE ROUTING, HUME PIPES SHALL BE PROVIED AT SPECIFIC DISTANCE BELOW ROAD. HOWEVER, RESPECTIVE CIVIL DRAWING TO BE REFERRED FOR EXACT LOCATION AND DETAILS.

LEGEND:
1. ROAD
2. BOUNDARY WALL
3. FENCING
4. RAILWAY LINE
5. LAND ACQUISITION LINE
6. FACILITIES/BUILDINGS/STRUCTURES
7. FORMATION LEVEL — RL(+) 282.0M
8. TOWNSHIP BOUNDARY WALL
9. RAILWAY LINE OF STAGE-III
10. FACILITIES TO BE DISMANTLED
11. HIGH LIGHTING MAST (LM-01 TO LM-15)
12. TEMPORARY SITE FACILITES
13. PSS-01 TO PSS-09
14. PIPE CUM CABLE TRESTLE-PEM
15. CABLE TRESTLE-PEM
16. AHP PIPE /CABLE TRESTLE
17. CHP/AHP CABLE TRESTLE
18. CULVERT/HUME PIPE
19. STP PITS (S1 TO S7)
20. ETP PITS (ETP1 TO ETP3)

NOTE:- SCAN QR CODE FOR CHECKING THE LATEST REV. STATUS OF DRAWING.

REV.	DATE	ALTD	CHD	APPD	DESCRIPTION
02	22.05.25	RA/AA	SK/PM	BKA	1. DRG. REVISED INLINE WITH NTPC COMMENTS RCVD. LETTER NO. CC-ENGG-8003-001-301-POC-F-001 RCVD. DTD. 04/01/2025 & FURTHER COMMENTS RECD ON 17.05.2025. GENERALLY UPDATED AND MARKED AS A.
01	20.12.24	RA/AA -Sd-	SK/PM -Sd-	BKA -Sd-	1. DRG. REVISED INLINE WITH NTPC COMMENTS RCVD. LETTER NO. CC-ENGG-8003-001-301-POC-F-001 RCVD. DTD. 13/11/2024 & FURTHER COMMENTS RECD ON 16.12.2024 & 18.12.2024.

ग्राहक ड्राॅइंग संख्या CUSTOMER DRAWING NO.	8003-001-301-POC-F-001
ग्राहक/CUSTOMER	एन टी पी सी लिमिटेड N T P C LIMITED
कार्य संख्या- JOB NO.	520
स्थिति STATUS	CONTRACT
मुद्रण स्केल एंटरटे PRINT SCALE IN METRE	0 2 4 6 8 10 20 30 40 50
परियोजना PROJECT	सीपत सुपर थर्मल पावर परियोजना, चरण-III (1X800 मेगावाट) SIPAT SUPER THERMAL POWER PROJECT, STAGE-III (1X800 MW)
	भारत हेवी इलेक्ट्रिकल्स लिमिटेड BHARAT HEAVY ELECTRICALS LTD पावर सेक्टर/POWER SECTOR परियोजना अभियांत्रिकी प्रबंधन PROJECT ENGINEERING MANAGEMENT नोएडा (उ॰प्र॰)/NOIDA (U.P.)

DEPT CODE		नाम NAME	हस्ताक्षर SIGNATURE	दिनांक DATE
M	तैयारकर्ता/DRN	VKS	-sd-	24.10.2024
	डिजाइनकर्ता/DSN	RA/AA	-sd-	24.10.2024
	जांचकर्ता/CHD	PM	-sd-	24.10.2024
	अनुमोदनकर्ता/APPD	BKA	-sd-	24.10.2024

शीर्षक/TITLE
PLOT PLAN (GLP)

उत्पादित MPL	सिविल CIVIL	इलेक्ट्रिकल ELEC	एयरकंडीशनिंग S&VE	इंस्ट्रूमेंटेशन WSE	तैयार MAX

विभाग DEPT. | स्केल — SCALE- 1:100
इंजीनियर SIGN | दिनांक DATE

ड्राॅइंग / DRAWING NO. PE-DG-520-100-M001
शीट SHEET 1 OF 1 | पुनरीक्षण REV. 02

फॉर्मेट साइज़ A0 FORMAT SIZE A0

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

REQUIREMENTS OF ASH HANDLING SYSTEM FOR ESP (ASH COLLECTION RATES FOR ASH HANDLING SYSTEM DESIGN ONLY)

The Electrostatic Precipitators are installed after the Air-pre heater collects the maximum amount of fly ash from the dust laden flue gas in a boiler circuit and is stored temporally in the ash hoppers. These fly ashes have to be removed from the hoppers by installing fly ash removal system.

In order to ensure that most efficient and economical design for the fly ash removal system, it is of utmost importance that certain major points are to be brought to the notice of those responsible for the specifications and the design of fly ash handling equipment.

There are 6 electrostatic precipitators of size FAA - 10 X 45M - 2 X 84 160 - 2 per boiler. Each ESP is provided with 2 hoppers arrangement across the flow directions. Each ESP is provided with 20 numbers of hoppers. These ash hoppers are located directly beneath the fields and receive the fly ash dislodged from the collecting electrode and emitting system. The hoppers are of conical shape with an outlet opening size of ǿ300 mm and are designed to have a valley angle of not less than 65 Deg. This valley angle is provided to ensure free flow of fly ash. For free flow of ash, it is recommended to set the hopper heater temperature at 120 Deg C during normal operation of ESP.

Hopper heaters are provided to avoid condensation of water vapor on the inside surface of the hopper. The ash handling system supplier shall ensure a gas-tight joint at hopper outlet to avoid admission of moisture into the hopper wall and interfere with the free flow of ash inside the ash hoppers.

One of the important factors to be considered while specifying the ash disposal system is the pattern of ash collection in ash hoppers along the flue gas path. The rapping of the collecting electrodes and emitting electrodes are intermittent and are programmed by microprocessor-based rapper controller. This intermittent operation of rapping mechanism is essential from the point of view of operation of the precipitators. Sufficient collection of fly ash on the collecting plates must be permitted so that at the time of rapping, the collected dust shears off the collecting electrodes and falls into the hoppers in the form of large agglomerates thereby minimizing the rapping losses.

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

Ash Collection Rate at Design Condition:

The ESP field wise ash collection rate is furnished for BMCR Worst Coal firing condition for Ash handling system design as per Sec VI/B, Sub.Sec A-01, 4.01.02(A) of Technical Specification. The patterns of ash collection at different field availability conditions are tabulated as below.

Case-I: The ash collection rate is furnished for 9 working fields considering the **first field is in Out of Service condition**. This is because the ESP is designed with one field out of service. (Details furnished in Table-1)

Case-II: The ash collection rate is furnished for 8 working fields considering the **first field and second field are OUT of service condition**. This is because at some time any one field out of service in addition to the Case-I might occur. (Details furnished in Table-2)

Case-III: The ash collection rate is furnished for 9 working fields considering the **last field out of service condition**. This is another variant of Case-I.(Details furnished in Table-3)

Case-IV: The ash collection rate is furnished for all 10 working fields considering all fields are in service for information purpose. (Details furnished in Table-4)

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

(TABLE – 1)

CASE – I

Pattern of Ash Collection Rate In Different Hoppers Considering **9 Fields Working And First Field Out of Service** Condition (At BMCR WC condition, Ref. Sec VI/B, Sub.Sec A-01, 4.01.02(A) of Tech Spec)

Field Sl. no	Working Field No	Stage Efficiency %	Rapping Frequency Raps/h	Period of Collection (minutes)	Ash Collection per rap (Kg/Rap)	Ash collection Per hopper (Kg/hr)	No. of hoppers per field in a row	Ash collection per ESP (kg/h)
1	**OUT OF SERVICE**							
2	1	70	15	4	970.93	14564	2	29128
3	2	17.87	12	5	309.83	3718	2	7436
4	3	7.01	10	6	145.80	1458	2	2916
5	4	2.9	6	10	100.67	604	2	1208
6	5	1.23	4	15	64.00	256	2	512
7	6	0.53	2	30	55.00	110	2	220
8	7	0.24	1	60	50.00	50	2	100
9	8	0.11	0.5	120	46.00	23	2	46
10	9	0.06	0.25	240	48.00	12	2	24
							Total (kg/h)	41590
							Total ash entering in one ESP, kg/h	41610
							Total ash collected in one ESP, kg/h	41590

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

(TABLE – 2)

CASE – II

Pattern Of Ash Collection Rate In Different Hoppers When The **First Field And Second Field Out Of Service** Condition (At BMCR Worst Coal firing condition, Ref. Sec VI/B, Sub.Sec A-01, 4.01.02(A) of Tech Spec)

Field Sl. no	Working Field No	Stage Efficiency %	Rapping Frequency Raps/h	Period of Collection (minutes)	Ash Collection per Rap (kg/Rap)	Ash collection Per hopper (kg/h)	No. of hoppers per field in a row	Ash collection per ESP (kg/h)
1	**OUT OF SERVICE**							
2	**OUT OF SERVICE**							
3	1	70	15	4	970.93	14564	2	29128
4	2	17.87	12	5	309.83	3718	2	7436
5	3	7.01	10	6	145.80	1458	2	2916
6	4	2.9	6	10	100.67	604	2	1208
7	5	1.23	4	15	64.00	256	2	512
8	6	0.53	2	30	55.00	110	2	220
9	7	0.24	1	60	50.00	50	2	100
10	8	0.11	0.5	120	46.00	23	2	46
							Total (kg/h)	41566
							Total ash entering in one ESP, kg/h	41610
							Total ash collected in one ESP, kg/h	41566

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

(TABLE – 3)

CASE – III

Pattern Of Ash Collection Rate In Different Hoppers Considering **Last Field Out of Service** Condition (At BMCR Worst Coal firing condition, Ref. Sec VI/B, Sub.Sec A-01, 4.01.02(A) of Tech Spec)

Field Sl. no	Working Field No	Stage Efficiency %	Rapping Frequency Raps/h	Period of Collection (minutes)	Ash Collection per Rap (kg/Rap)	Ash collection Per hopper (kg/h)	No. of hoppers per field in a row	Ash collection per ESP (kg/h)
1	1	70	15	4	970.93	14564	2	29128
2	2	17.87	12	5	309.83	3718	2	7436
3	3	7.01	10	6	145.80	1458	2	2916
4	4	2.9	6	10	100.67	604	2	1208
5	5	1.23	4	15	64.00	256	2	512
6	6	0.53	2	30	55.00	110	2	220
7	7	0.24	1	60	50.00	50	2	100
8	8	0.11	0.5	120	46.00	23	2	46
9	9	0.06	0.25	240	48.00	12	2	24
10	**OUT OF SERVICE**							
							Total (kg/h)	41590
							Total ash entering in one ESP, kg/h	41610
							Total ash collected in one ESP, kg/h	41590

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

(TABLE – 4)

CASE – IV

Pattern of Ash Collection Rate In Different Hoppers Considering **all fields in service** (At BMCR Worst Coal firing condition, Ref. Sec VI/B, Sub.Sec A-01, 4.01.02(A) of Tech Spec) for information purpose.

Field Sl. no	Working Field No	Stage Efficiency %	Rapping Frequency Raps/h	Period of Collection (minutes)	Ash Collection per Rap (Kg/Rap)	Ash collection Per hopper (kg/h)	No. of hoppers per field in a row	Ash collection per ESP (kg/h)
1	1	70	15	4	970.93	14564	2	29128
2	2	17.87	12	5	309.83	3718	2	7436
3	3	7.01	10	6	145.80	1458	2	2916
4	4	2.9	6	10	100.67	604	2	1208
5	5	1.23	4	15	64.00	256	2	512
6	6	0.53	2	30	55.00	110	2	220
7	7	0.24	1	60	50.00	50	2	100
8	8	0.11	0.5	120	46.00	23	2	46
9	9	0.06	0.25	240	48.00	12	2	24
10	10	0.03	0.125	480	48.00	6	2	12
							Total (kg/h)	41602
							Total ash entering in one ESP, kg/h	41610
							Total ash collected in one ESP, kg/h	41602

Ash collection Pattern:

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

It may be noted that in the first working field 970.93 kg of ash is dislodged by rapping, in one minute. The second rapping takes place only after (period of collection – 1) 3 minutes and again raps off 970.93 kg of ash. In case the first working field is rendered ineffective due to certain problems, the second working field which was earlier collecting ash at the rate of 309.83 kg/rap will now be collecting 970.93 kg/rap just like the first field. The same logic is applicable for the subsequent fields in series as indicated in the Table.

The ash handling system shall have to cope with sudden surges in the pattern of ash collection in the hoppers. There shall not be any reduction in ash evacuation capacity of hoppers subsequent to first field hoppers for the reason explained above.

In case, the capacity of ash handling is inadequate, it will lead to frequent choking and undue build–up of ash in the hoppers, ultimately resulting in tripping of the fields of electrostatic precipitator.

Therefore, it is imperative that these factors are taken into consideration while specifying the ash handling system for the electrostatic precipitator.

Table 1-4 shows that the ash evacuation capacity of the first 3 fields shall be same.

However, in practice, there will be natural collection of ash when the fields are switched off depending upon the particle size. If the first field is off, it is expected that, the natural collection would be around 20% and if the first two fields are off, it would be around 25%. Though the fields are off, there will be rapping in operation. Therefore, the ash handling system should work even when the fields are switched off.

ASH DISTRIBUTION DATA IN VARIOUS FIELDS OF ESP HOPPERS

NOTE

1. The above data to be used for designing the ash handling system purpose.

2 The ESP ash collection rates furnished above are for ONE ESP ONLY and the same values shall be considered for other FIVE ESPs also.

3 The predicted values of ash collection data at different hoppers is based on design point condition. However, while designing ash-handling system, **suitable margins** for the ash handling system operation and maintenance has to be considered over and above the data indicated above.

4 It may be noted that for maintaining flow ability of ash, stainless steel lining is provided at the bottom portion of the hopper. Space provision of 400 X 400 mm is envisaged in each hopper on two opposite sides for installation of fluidiser pad. Kindly note that for hoppers of stainless-steel lining 360x360 mm size inside the hopper will be cut at works before dispatch. Hopper wall 5 to 8 mm thick shall be cut open at site suitably by Ash handling vendor/executing agencies during installation of fluidizer pad if applicable.

5 It is recommended to evacuate the ash hoppers periodically and it may please be noted that the accumulation of ash beyond the permitted level of ESP hoppers may, not only affect the ESP performance due to damage / misalignment of ESP internals but also may lead to structural failure because of overloading of ash.

	PROJECT	**NTPC SIPAT STAGE-III 1x800 MW**
	FGD	**WET LIMESTONE BASED FGD SYSTEM**
	PARAMETERS	**DESIGN INPUTS FOR FGD WASTE WATER HANDLING**

Format No: FPT-409A

FGD Waste Water Handling Details

Sl. No.	Parameter	Unit	Value
1.	No of Absorber Unit		1
2.	Waste Water Flow	m^3/hr.	9.75
3.	Waste Water Flow	t/hr.	10.0
4.	Density	Kg/m^3	1026
5.	Operating Temperature	°C	58.9
6.	Design Temperature	°C	70
7.	pH		7
8.	Chloride (Cl-)	mg/l	30,000 (Max)
9.	Total Suspended Solids	mg/l	30,000
10.	Total Dissolved Solids	mg/l	55,000
11.	Slurry Concentration	Wt. %	3.0

Note:

- Margin as per tender documents and amendment may please be considered by ISG for equipment sizing.
- Waste water from FGD will be terminated to ISG area of scope and further ISG shall take care of its disposal.