

TECHNICAL CONDITIONS OF CONTRACT (TCC)

**EPC PACKAGE FOR ASH HANDLING PLANT
AT
SIPAT SUPER THERMAL POWER
PLANT 1 X 800 MW STAGE- III, NTPC**

Volume-1A

BHARAT HEAVY ELECTRICALS LIMITED



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Chapter-I Project Information

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Chapter-I Project Information

1. Project Information:

Sl. No.	Description	Details
1	Project Title	1X800MW Sipat Super Thermal Power Station, Stage-III
2	Customer	National Thermal Power Corporation Limited (NTPC Limited)
3	Location	The project is located in Bilaspur district of Chhattisgarh, having latitude and longitude of 220 - 05' to 220 - 09' (N) and 820 -16' to 820 - 18' (E) respectively.
4	Nearest Airport	The nearest commercial airport, Raipur is about 150 Km from the project site.
5	Access by Road/Major Cities	The project site is approximately 20 Km from Bilaspur city and is approachable via Bilaspur – Baloda State Highway which passes through Sipat.
6	Temperature	The annual daily max temperature is 42.4 °C and annual daily minimum temperature is 13.8 °C
7	Seismic Zone	Zone-III
8	Wind Speed	39m/s

The basic information about the project is tabulated above and the Present proposal is for setting up SIPAT STPP STAGE-III (1X800MW), for NTPC with all the facilities as specified in the NIT. General information related to the project and site is available in **ANNEXURE-1**, which has been enclosed along with this enquiry specification.

1	INSTRUCTIONS TO BIDDERS
2	The Bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and in & around the plant premises, together with site conditions, transportation routes, various distances, all the statutory, obligatory, mandatory requirements of various authorities and all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder.
3	Other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors.
4	The information given herein is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder. All costs for and associated with site visits shall be borne by the bidder.
5	No claim will be entertained by BHEL on ground of lack of knowledge and the bidder's rates shall be deemed to have taken this into account.
6	Bidders may fix up their site visit in consultation with below mentioned contact person:

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	Name:	Mr. Deepak Rathore	Mr. Kamlesh Kumar
	Designation:	AGM/PD	Sr. DGM/Civil
	Location:	Sipat Project Site	Sipat Project Site
	Email:	deepak.rathore@bhel.in	kkumar@bhel.in
	Ph. No.	9644890007	9873700952

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Chapter-II Facilities in the Scope of Bidder/BHEL

Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
2.1	Establishment:			
2.1.1	For Construction Purpose:			
a	Open space for office (as per availability within project premises)	Yes		Location will be finalized after joint survey with owner.
b.1	Open space for storage (as per availability within project premises)		Yes	Construction of open storage yard shall be in the bidder's scope Bidder shall also consider fencing/illumination of open storage and site fabrication area as and when allocated at site. Location will be finalized after joint survey with owner.
b.2	Construction of Closed Storage Shed		Yes	Construction closed storage shed for the storage of materials (Including free supply items of BHEL if any) shall be in the bidder's scope
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipment, office / store / canteen consumables		Yes	
E	Canteen facilities for the bidder's staff, supervisors and engineers etc.		Yes	
F	Firefighting equipment like buckets, extinguishers etc.		Yes	

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Chapter-II Facilities in the Scope of Bidder/BHEL

Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
G	Fencing of storage area, office, canteen etc of the bidder		Yes	
2.1.2	For living purpose of the bidder:			
A	Open space for labour colony		Yes	Bidder has to make his own arrangements for shelter and transportation of labour as per requirement.
B	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	Construction Plan shall be approved by BHEL/NTPC. Bidder to refer Annexure-A (Standard Guidelines for workers Accommodation)
2.2	Electricity: (Free of Cost)			
2.2.1	Electricity for construction purposes (for Site/Project works only) 3 Phase 415/440 V within project premises	Yes		BHEL Shall provide Electricity Free of Charges for construction purpose.
A	Single point source	Yes		At Location jointly agreed.
B	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
C	Duties and deposits including statutory clearances if applicable		Yes	
2.2.2	Electricity for office, stores, canteen etc. of the bidder within project premises		Yes	Bidder has to make his own arrangements and the same is chargeable as per prevailing DISCOM rates.

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Chapter-II Facilities in the Scope of Bidder/BHEL

Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
A	Single point source		Yes	
B	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
C	Duties and deposits including statutory clearances if applicable		Yes	
2.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors, labour Hutment etc.		Yes	Bidder has to make his own arrangements and the same is chargeable as per prevailing DISCOM rates.
A	Single point source		Yes	
B	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
C	Payment/Duties and deposits including statutory clearances if applicable		Yes	
2.3	Water Supply:			
2.3.1	For construction purposes:			
A	Making the water available at single point	Yes		BHEL Shall provide Water Free of Charges for construction purpose.
B	Further distribution as per the requirement of work including supply of materials and execution		Yes	
2.3.2	Water supply for bidder's office, stores, canteen etc			
A	Making the water available at single point		Yes	
B	Further distribution as per the requirement of work including supply of materials and execution		Yes	

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Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
2.3.3	Water supply for Living Purpose			Bidder has to make his own arrangement
A	Making the water available at single point		Yes	
B	Further distribution as per the requirement of work including supply of materials and execution		Yes	
2.4	Lighting			
A	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
B	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
C	Providing the necessary consumables like bulbs, switches, etc. during the course of project work		Yes	
D	Lighting for the living purposes of the bidder at the colony / quarters		Yes	
2.5	<i>Communication facilities for site operations of the bidder</i>			
A	Téléphone, fax, internet, intranet, e-mail etc.		Yes	
2.6	<i>Demobilization of all the above facilities</i>		Yes	
2.7	Erection Facilities			
2.7.1	Engineering works for construction:			
A	Providing the erection/constructions drawings for all the equipment covered under this scope		Yes	
B	Drawings for construction methods		Yes	In consultation with BHEL

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Chapter-II Facilities in the Scope of Bidder/BHEL

Sl. No	Description PART I	Scope		Remarks
		BHEL	Bidder	
C	As-built drawings where ever deviations observed and executed and also based on the decisions taken at site		Yes	Changes are to be marked in drawing & handover to BHEL on completion of work.
D	Preparation of site erection schedules and other input requirements as per Form-14.	Yes	Yes	In consultation with BHEL
E	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL

2.8	Land/Open Space:
2.8.1	Availability of land within plant boundary is very limited and the bidder has to plan and use the existing land considering the use of land by other Civil /mechanical/ electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erection agencies. BHEL shall provide free of charge limited open space for office, storage shed and laydown area as and where made available by Customer. It is the responsibility of the bidder to construct sheds, fabrication yard, establish batching pant, provide all utilities and dismantle and clear the site after completion of work or as and when required, as a part of his scope of work.
2.9	Labour and Staff Colony: Following are in the Bidder's scope of work for labour & staff colony:
2.9.1	<p>Labour colony is to be developed by bidder for all the labours required to be deployed for the works. All labour colony set-up is to be developed as per attached drawing and in compliance of statutory requirements.</p> <p>BHEL has provided Guidelines in Annexure-A for the Establishment of Labour Colony which shall be followed by the contractor.</p> <p>Contractor shall construct/arrange Labour Hutment as per minimum specifications mentioned in the attached drawing, for which no separate payment shall be made by BHEL. Modifications if any proposed in the Hutment shall be in consent with BHEL/Customer.</p> <p>Ownership of the labour hutment shall be of the contractor and contractor shall keep BHEL indemnified from any statutory obligations/ legal compliances w.r.t. labour hutment establishment during as well as after the completion of contract.</p>

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	Ownership of the labour hutment shall be of the contractor and contractor shall keep BHEL indemnified from any statutory obligations/ legal compliances w.r.t. labour hutment establishment during as well as after the completion of contract.
2.9.2	<p>In case labour hutment is not completed as per the drawings and specification and any penalty is imposed by Customer, same shall be recovered from contract's RA Bill.</p> <p>Rectification and Corrections in labour hutment as pointed out by BHEL/Customer shall be bidder's responsibility and any cost incurred by BHEL to complete the works, in case of non-compliance of the instructions, same shall be recovered from his RA Bills along with 5% overheads.</p>
2.9.3	Land for labour colony shall be arranged by successful bidder at their own cost as per availability outside project area within 5Km (preferably), Necessary levelling/dressing of land shall be done by the successful bidder. All arrangement for electricity and drinking/service water to be arranged by the Successful bidder within his quoted price.
2.9.4	All Civil and Structural work associated with drinking and service water for Bidder's labour and other personnel at the work site/colony/offices including pump houses, pipes, overhead tank, tube wells etc. Bidder to refer the Standard Guidelines for workers accommodation issued by BHEL attached as a part of this tender.
2.9.5	Providing and maintaining facilities for safety, welfare, drinking water and sanitation, hygiene, biennial health check-up etc. for construction workers at their workplaces as well as at labour & staff colonies.
2.10	Development and maintenance of above facilities for construction workers deployed by the Successful bidder shall solely rest with the Successful bidder.
2.11	<p>Installation of necessary amenities- and temporary infrastructure for construction activities at Project site locations.</p> <p>Following are the minimum amenities to be provided by the bidder within the quoted price including removal/disposal of the same in environment friendly manner after its intended use/completion of scope of work:</p> <ol style="list-style-type: none"> i. Labour rest sheds near work spot. ii. Canteen facility creation. iii. Drinking water facility. iv. Labour Bio toilets near work spot in sufficient nos. with regular cleaning & maintenance arrangement. v. Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements. <p>Royalty challan and statutory documents shall be submitted along with RA Bills for processing of Bills.</p>
2.12	Construction Power:

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2.12.1	<p>Construction power (three phase, 415 V/ 440 V) will be provided near the site at the identified locations by BHEL and Bidder at a distance of approx. 500M free of cost. Further, distribution shall be arranged by the contractor at his own cost and services.</p> <p>Construction power (three phase, 415 V/ 440 V) for office, stores, canteen etc. within the site premises will be provided on chargeable basis near the site at a distance of approx. 500M. Further, distribution shall be arranged by the contractor at his own cost and services.</p>
2.12.2	<p>Contractor shall deploy and install required energy meter (wherever applicable), cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act.</p> <p>Contractor shall provide at his own cost necessary calibrated energy meters (tamper proof, suitably housed in a weather proof box with lock & key arrangement) at point of power supply along with calibration certificate from authorized/ accredited agency for working out the power consumption. In case of recalibration required for any reason the necessary charges including replacement by calibrated meters is to be borne by the contractor.</p> <p>Contractor is advised to maintain the calibrated energy measuring instruments.</p>
2.12.3	<p>Successful bidder shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc. and safety of personnel.</p>
2.12.4	<p>It shall be the responsibility of the Successful bidder to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.</p>
2.12.5	<p>BHEL is not responsible for any loss or damage to the Successful bidder's equipment as a result of variations in voltage or frequency or interruptions in power supply.</p>
2.12.6	<p>Contractor to note that till construction power is made available by BHEL (approx. within 3 months from start of work); contractor shall make his own arrangement like DG set etc. The contractor shall also take the approval/ permission of statutory authorities for his DG set installation. The Contractor has to make his own arrangement for the same as required to carry out the job under the scope of work within the quoted rate. Nothing extra shall be paid on this account of DG set up and running for construction and office maintenance etc.</p>
2.12.7	<p>The bidder will have to Procure & install General mobile illumination system during construction right from start of his work. This system will include temporary pole lighting, within the quoted price. The illumination should be such that minimum illumination requirement as specified by Indian Standards for general illumination is maintained.</p>

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2.12.8	Supply of electricity shall be governed by Indian Electricity Act and Installation Rules and other Rules and Regulation as applicable. The Successful bidder shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases.
2.13	Construction water:
2.13.1	Construction water shall be arranged by BHEL free of cost. Bidder has to make arrangement of further distribution of water at his own cost. No extra payment shall be made under this account.
2.13.2	The Successful bidder should make arrangements for storage of sufficient quantity of water required for work. The agency should also construct sumps (if required) of suitable size for storage of construction water as per their requirement for use in batching plant and construction purposes.
2.13.3	Successful bidder to satisfy himself that the water drawn by him is fit for construction / consumption and adequately treat such water at his cost when it is not found fit for the said purposes.

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Chapter - III: Scope of Work

3.0	Scope of Supply and Services:
3.1	The scope of supply & services includes System Design, Engineering, Sizing & Selection of Equipment, Basic, Detail Engineering, 3D modelling, Manufacturing, Procurement, Supply of Mechanical, Civil & Structure, Electrical, C&I Equipment / items, Technological structures, Other structures, Inspection & Testing, Shop floor testing, Shop floor painting, Supply of equipment, Start-up, Commissioning spares, Packing & Forwarding, Transportation to the site including customs clearance/ port clearance, Receipt at Site, Unloading, Storage, Preservation, Security, Intra Site Transport & Handling at site, Statutory clearances, Erection & Commissioning, Civil & structural work, Electrical and C&I work, Supply of paint and Painting at site, System integration, Trial Run, Operation and maintenance, Training, Performance Guarantee Test, Auxiliary Power consumption demonstration and Handing Over of complete Ash Handling System as EPC turnkey package of Sipat Thermal Power Station Phase- III (1 X 800 MW) to NTPC/BHEL.
3.2	Bidder shall include the responsibility of technical coordination (including participation in Technical co-ordination, Project review meetings with BHEL/NTPC), finalization of drawings/ documents, submission of engineering & civil assignment drawings/ documents ,3D modelling drawings and processing of their approvals by NTPC/BHEL. Bidder shall be solely responsible for submission & approval of drawings, composite layouts, flow diagrams, Technical data sheets, QAP, Field Quality Plans, Erection manual, Commissioning procedures, O&M manuals, as built drawings after E&C of all equipment, PG test procedures, Inspection & Testing Procedures from BHEL/ NTPC in time and shall plan the activities accordingly.
3.3	Any additional items required for the completeness and satisfactory performance of the complete Ash Handling system though not explicitly mentioned in Mechanical, Electrical, C&I, Civil & structural scope matrix, Electrical and C&I scope matrix, enclosed annexures etc in this specification or NTPC technical specification shall also be in Bidder's scope of supply & works. Items which are specifically excluded in the specification shall only be supplied by BHEL.
3.4	The scope of this package under installation services , E&C shall cover receipt of material & unloading at site, storage, preservation & security at site, shifting of material to erection work place, erection, alignment, initial supply of consumables, trial run, commissioning functional testing, final painting, O&M and Performance & functional guarantee testing until final handing over to end user's upon satisfactory completion and written confirmation from end user for all AHP equipment, items, systems, buildings, structures etc. including free supply items/equipment issued (as specified elsewhere in this specification) to the successful bidder by BHEL.
3.5	Bidder to refer NTPC tender specification and clarifications/corrigendum/Amendment for details. However, Bidder to follow the scope matrix as attached Annexure-2 & 3 .

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Chapter - III: Scope of Work

3.6 DESIGN BASIS/INPUTS.

1. Refer NTPC NIT specifications for ash handling system.

2. ASH COLLECTION DATA AT BMCR

Following percentages of Ash collection is to be considered for system sizing

a) Fuel and Ash Quantities (per boiler):

		Worst Coal
Coal fired at 100% BMCR	t/h	616
Ash in coal	%	45
Ash generated	t/h	277.2

b) Ash distribution data -t/h (BMCR) Per Boiler @

Furnace Bottom Hoppers	25 %	69.3
Economizer Hoppers	5 %	13.9
Economizer Outlet duct hoppers	5 %	13.9
Air Preheater Hoppers	5 %	13.9
AH-ESP duct hoppers	5 %	13.9
ESP Hoppers	90 %	249.5

c) Indicative 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

d) Additional Information

Description	Temp. °C	Pressure mmWc	No. of Hoppers
Furnace Bottom Hoppers	1100	-40	1
Economizer Hoppers	360	-80	4

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	Economizer Outlet duct hoppers	360	-90	3 + 3
	Air Preheater Hoppers	150	-225	3 + 3
	AH-ESP duct hoppers	150	-230	3 + 3
	ESP Hoppers	150	-300	120
<p>Remarks</p> <p><i>The sieve analysis furnished above are for reference only based on statistical data. However, Package vendor shall consider suitable margin based on their experience and data available with them about sieve analysis in the past executed projects of similar plant.</i></p>				
3.6.1	<p>Instrument Air System</p> <p>Total instrument air requirement for the complete AHP is considered as 25Nm³/min for 1x800 MW unit (Stage-III) from the main plant compressed air system. BHEL shall provide air receivers at the following locations inside the plant. Tap off from the Instrument air receiver outlet at below specified locations along with Valves, Instrument air distribution piping, air receivers (As/If required for AHP), solenoid valves, fittings, supports, field instruments (as applicable), associated electrical and C&I equipment are in the bidder's scope of work.</p> <ul style="list-style-type: none"> BHEL's Air receiver (1 no. of 10M³) at One Point Near ESP (Stage-III) BHEL's Air receiver (1 no. of 10M³) at One Point Near Silo utility building Stage-III <p>Broad scope of work is as detailed under. Bidder to note that any other items as required for completion of the ash handling system shall also be considered in the scope of supply.</p> <p><u>The following points also to be noted by bidder</u></p> <ol style="list-style-type: none"> Instrument air supply shall be strictly as per NTPC scheme. Tap-off from the Instrument air receiver outlet at above specified locations of ESP Stage-III and Silo utility building Stage-III. Further distribution of instrument air and providing air receivers at any locations of AHP area (As applicable) is in the scope of bidder. 			
3.6.2	<p>Common Water System</p> <p>The water requirement for the complete Ash handling system package shall be met through various water pumps specified in the NTPC single line flow diagrams and NTPC specification. Bidder to note that any other items as required for completion of the ash handling system shall also be considered in the scope of supply.</p>			

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	<p><u>The following points also to be noted by bidder</u></p> <ol style="list-style-type: none"> 1. Total Cooling water available for Conveying Air Compressor & Its Dryers (If considered), Transport Air Compressors & its Dryers, and Fluid Couplings for 1st Stage of Ash Slurry Pump and BA Overflow Pumps is 678 M3/hr. (Continuous). 2. Total raw water/CTBD water available for ash handling system during BA, CA, FA and SCR in wet mode is 1580 M3/hr. (Qty without water recovery from ash dyke) and Average 474 M3/hr. (Qty water recovery from ash dyke). 3. Total raw water/CTBD water available for ash handling system during BA, CA, SCR in wet mode and FA in Dry Mode is 815 M3/hr. (Qty without water recovery from ash dyke) and Average 245 M3/hr. (Qty water recovery from ash dyke). 4. Total raw water/CTBD water available for ash handling system during BA, CA, SCR in wet mode to Hydrobin and FA in Dry Mode is Average 380 M3/hr. (Qty without water recovery from ash dyke) and Average 150 M3/hr. (Qty water recovery from ash dyke). 5. Total seal/clarified water available for sealing of Ash Slurry Pumps, Clinker Grinders, Vacuum Pumps (if considered), applicable Water Pumps & drain Pumps etc. during BA, CA, FA and SCR in wet mode is 154 M3/hr (Peak), 100 M3/hr. (Average in a shift of 8hrs). 6. Total seal/clarified water available for sealing of Ash Slurry Pumps, Clinker Grinders, Vacuum Pumps (if applicable), applicable Water Pumps & drain Pumps etc. during BA, CA and SCR in wet mode and FA in dry Mode are 124 M3/hr. (Peak), 70 M3/hr. (Average in a shift of 8hrs). 7. 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.
3.6.3	<p>Ash Water Recovery System</p> <p>Decanted water from NTPC's pumping system located at ash dyke shall be pumped back to ash water tank located inside the plant boundary. Tentative location of ash water tank is indicated in the plot plan. Exact Location of the ash water tank shall be finalized during detailed engineering subjected to approval from NTPC/BHEL. 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) to the ash water tank. Bidder to note that any other items as required for completion of the system shall also be considered in the scope of supply.</p>
3.6.4	<p>Miscellaneous Equipment</p> <p>Apart from the main ash handling system, there are many other auxiliary system/equipment like Pit less type Ash weigh bridge (Road + Rail), Air</p>

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	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. 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.
3.7	The bid shall be complete in all respects and shall necessarily contain but not limited to Technical description, Technical data sheets of equipment and systems, Schematic diagrams, System Process & Instrumentation Diagrams (P&ID), Guarantee declaration schedules. Spares shall meet the project scope and technical specification requirement.
3.8	Bidder shall understand limitations/ constraints for deciding the final layout for ash handling system which shall be subjected to approval of NTPC/BHEL.
3.9	If the system is not working properly or the system has some inherent design flaws, in such a case, the successful bidder will be liable to correct the system without any price implication to BHEL and BHEL's decision will be final and binding in such cases. Also, the system has to be designed as per best industry practice while taking worst case scenario into account if nothing is mentioned in the technical specifications furnished by NTPC/BHEL.
3.10	Supply of all consumables like lubricants, oil, grease etc. for initial flushing at site, first fill during commissioning and replenishment/replacement of the same till handing over of the plant to NTPC is in the scope of bidder. Any oil, if lying in the equipment shall be drained at site and shall be refilled with new oil during commissioning. Special tools and tackles (as required), commissioning/start up spares required for the equipment/system supplied by the bidder shall be in the scope of bidder.
3.11	Successful bidder shall submit drawing for Bottom ash hopper within 3 weeks from the receipt of LOI.
3.12	Cleaning of any debris produced by the bidder during E&C shall be done immediately at each front.
3.13	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.
3.14	The PT sludge to the slurry sump will be approx. 135-185 m³/hr . However, there

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	shall be make up provision to the slurry sump and margin in the water pump considering the case of no sludge from PT plant.
3.15	Approach road, Chipping and levelling/ grading near erection location is in Bidder scope.
3.16	Bidder shall include the responsibility of technical coordination (including participation in technical co-ordination meetings with NTPC/BHEL), finalization of drawings/ documents, submission of engineering drawings/ documents and processing of their approvals by NTPC/ BHEL. Bidder shall be solely responsible for submission & getting approval of drawings/ layouts/ flow diagrams/ data sheets/ QAP/ Field Quality Plans/ Commissioning procedures/ O&M manuals/ as built drawings after E&C of all equipment/ PG test procedures/ Testing Procedures from NTPC/ BHEL in time and shall plan the activities accordingly. Bidder shall co-ordinate & attend meetings with customer and also with other units of BHEL for finalizing the AHP Layout, drawing approval and for any other input information as required.
3.17	Bidder shall participate in the Monthly project/Engineering review meeting with status reports at BHEL HQ/Customer's place/SIPAT Site office. Successful bidder engineering team has to visit project site time to time to resolve the interface issues/technical issues arises during erection, if any. Further, as built drawings preparation/submission is also in the scope of the bidder.
3.18	Bidder shall furnish the L-2 project schedule indicating various milestones and constraints (preferably in MS PROJECT / PRIMAVERA), along with the bid. The successful bidder shall furnish the L-3 project schedule in line with the L-2 schedule after award of the contract.
3.19	Project monitoring & execution team dedicated for this project including the organization chart till completion of the project shall be furnished by successful bidder.
3.20	Monthly progress report shall be submitted on 5th of every month by the successful bidder.
3.21	The design, manufacture, inspection and testing of the equipment shall comply with all the currently applicable statutory regulations and safety codes in the locality where the equipment in to be installed and shall also confirm to the latest edition of Indian and other international standards and codes. Nothing in this specification shall be construed to relieve the bidder of the required statutory responsibility. In case of any conflict & ambiguity in the standard to be followed the decision of the BHEL/customer shall be final and binding.
3.22	In case of any ambiguity, conflict in the standard & specification &/or interpretation of clauses in this enquiry spec. and its enclosures the decision of BHEL shall be final and binding and any change due to this shall have no price implication on BHEL and shall have to be absorbed by successful bidder.
3.23	Clarifications, if any shall be sorted out, before submission of the bid. Bidder's

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	shall raise all ambiguities, conflict in the standard & specification and/or interpretation of clauses, if any, in this enquiry spec. and its enclosures during pre-bid stage itself, failing which it shall be understood that bidder has no issue and at later date successful bidder shall have no right to take any technical and commercial advantage out of any ambiguity, conflict in the standard & specification and/or interpretation of clauses and the decision of BHEL shall be final and binding and any change due to this shall have no price implication on BHEL and shall have to be absorbed by successful bidder.
3.24	Bidder shall strictly follow and adhere to the guidelines laid down in the enclosed BHEL's health, safety and Environment manual (HSE).
3.25	During detail engg, bidder to strictly adhere to BHEL/NTPC & their Consultant /NTPC drg. Formats, document numbering, quality plan & FQP formats.
3.26	During detail engineering, successful bidder has to submit all the drawings/documents and any other documentation through ISG based Document Management System (DMS) like Wrench portal, etc. Bidder would be provided access to the DMS for drawing. /doc. approval and adequate training manuals will be available to bidder; which bidder has to get conversant with. Necessary IT related information will have to be collected by successful bidder after award of contract, by coordinating with BHEL-ISG IT team. All the documentation flow should happen in ISG document management system only.
3.27	Quality assurance and inspection of equipment shall be as per NTPC specification. However, modalities of inspection (Stage, Final, In-process) shall be finalized during detail engineering after submission of quality assurance plan (QAP).
3.28	<p>Bidder shall submit the signed and stamped copy of all the pages which constitutes this technical enquiry specification signed by authorized signatory and clearly mentioning each clause under following two categories to avoid any ambiguity in scope understanding & the scope division as a technical offer during bidding. Digitally signed copy of all the pages of the technical specification is acceptable.</p> <ol style="list-style-type: none"> 1. "Accepted without deviation and considered in scope of work" 2. Further Bidder to note that the Bid is a "No Deviation Bid".
3.29	Bidder to note "technical deviation" from the enclosed NTPC bid document and the pre-bid MOM, amendments and clarifications is not acceptable.
3.30	Quality of effluent outgoing from the plant shall conform to latest norms of Environment Pollution Control.
3.31	For Technical discussions regarding any erection issues related to erection drawings/supplies, any modification at site due to site conditions, bidder shall depute concerned engineers to site/customer place to resolve the issue as well as submission of related revised drawings. As built drawings shall be submitted by the successful bidder after visiting the site from time to time by their engineering personnel to note the modifications and incorporate in drawings.

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3.32	The successful bidder has to submit all the Self Manufacturing Items (SMI) drawings and QAP within two months of LOI.
3.33	Successful bidder has to place the order of all the BOI and provide the unpriced Copy of PO of the Bought-out Items (BOI) to BHEL for information & Record.
3.34	Bidder to extend all help and documentary support for compliance and addressing any statutory issues raised by NTPC/BHEL which pertains to the area / work under bidder's scope.
3.35	Bidder to refer ANNEXURE-15 SUB- VENDORS LIST . List Additional sub-vendor list of only successful bidder is subjected to end user's approval. Successful bidder will get 90 days from LOI to submit all requisite supporting documents of sub-vendors for approval by end user/BHEL. Any sub-vendor approval not approved by end user or going beyond 90 days by any means from LOI shall not be considered for procurement by BHEL and in such event Successful bidder will go ahead with procurement from only approved sub-vendors, without any price implication to BHEL-ISG. Delay in any new vendor approval from end user shall not be considered for delay analysis.
3.36	Bidder shall consider training module to end-user for Ash handling system package as per the NTPC NIT specification.
3.37	Bidder shall consider safety induction and training as per the NTPC NIT specification.
3.38	Implementation of Smart project Management system shall as per NTPC Specification.
3.39	All Bidders to submit their credentials and formats attached in Technical requirements and 3K attachments along with offer for submission to NTPC for vendor approval. If NTPC/ BHEL does not approve any vendor the price bid of the vendor will not be opened. Further, on obtaining the order, the Successful Vendor shall submit his reputed sub vendor list, reputed makes/data sheets of all equipment/components & documents as desired by NTPC for approval. If any of the sub vendor including his own make, does not have the approval of NTPC/ BHEL, the same may be replaced with another NTPC approved sub Vendor without any price implications to BHEL. It is the complete responsibility of the bidder to obtain "sub vendor approval" from NTPC for all equipment & components being supplied. Any delay in sub vendor's approval should not affect the project schedule.
3.40	BHEL reserves the right to demand/seek any additional information and clarification from the Bidder after submission of his bid for examination and evaluation of bid. Bidder shall furnish the same without any pre-conditions.
3.41	Bidder shall provide details of important conditions, Deviations (if any) with respect to Enquiry Specification & its annexures, local representatives, Erection Tools & Plants, Bought Out Items, Quality Assurance Programme, Project Schedule, Milestone Schedule, Any other Additional Information.
3.42	TECHNICAL SPECIFICATION -ELECTRICAL & C&I SCOPE OF WORK Complete

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	Electrical and C&I System for Ash Handling System is in the scope of bidder. Refer Annexure-3 For Terminal Points, Exclusions and detailed scope of Electrical & C&I Scope of bidder
3.43	The works covered under the scope of the bidder have to be executed in an existing power station. The bidder shall take all necessary precautions to protect the existing equipment, structures, facilities and buildings etc. from damage. In case any damage occurs due to activities of the bidder on account of negligence, ignorance, accidental or any other reason whatsoever, the damage shall be made - good by the bidder at his own cost to the satisfaction of the Owner. The bidder shall take all necessary safety measures to avoid any harm, injury to his workers/staff from the equipment / facilities of the power station.
3.44	BROAD SCOPE - CIVIL, STRUCTURAL AND ARCHITECTURAL SCOPE OF WORK: The scope of civil, structural and architectural works shall include, site clearance, dismantling of existing structures/substructures/facilities, micro site levelling, preparation of Civil & Structural design & drawings (Including 3D modelling in Tekla) and getting approval of the same from the Employer. Construction of all civil, structural and architectural works including supply of all construction materials for all buildings, equipment and facilities for the project. The nature of work generally involves, piling (if required), earthwork in excavation in all types of soil and rock including controlled blasting/ mechanical means, de-watering, backfilling around completed structures, plinth filling, disposal of surplus earth/rock/excavated material/dismantled material, concreting including reinforcement and form work/ slip form, masonry work, plastering, corrosion protection measures including painting, un-insulated / sandwiched insulated metal wall cladding, roofing and flooring including permanent steel decking, false ceiling, under deck and over deck insulation, acid and alkali resistant lining, fabrication of all structures, pre assembly of fabricated structures, transportation of fabricated structures and erection of steel structures and miscellaneous steel works (i.e., steel staircase, cable supports, pipe supports, ladders, walkways, railing, chequered plate, grating, grizzly, inserts, monorail beam, monorail door, debris chute, stools, liners etc.), painting of structures, foundation bolt, grouting, paving, gravel filling, providing pre-cast covers, damp proofing, roof water proofing, anti-weed treatment, roads, drainage, sewerage, final grading and site clearance before handing over and any other item of work required for completion of all systems under the scope of work complete as per Technical Specifications & amendments.
3.44.1	The Bidder shall provide Design details and complete Design documents of substructure, superstructure and other relevant drawings for the structures list in the scope matrix.
3.44.2	Design and drawings of equipment foundations associated with structures listed in the scope shall be done as a part of the main structure without any extra cost to BHEL
3.44.3	Structure/Building wise civil arrangement drawings, showing plan, elevation/section as required with complete load data for various loads and load

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	combinations prepared by Mechanical vendor / their bidder.
3.44.4	Floor plans, elevations, cross sections etc., views of all buildings.
3.44.5	Submission of detail design & drawings of sub structure & super -structure involving RCC, structural steel & architectural details.
3.44.6	Submission of Design & drawings of equipment foundations.
3.44.7	Submission of design & drawings of all floors including ground level grade slab along with equipment foundations, approach roads, trenches, paving, sumps, surrounding drains, Sewage water and waste water drainage system etc.,
3.44.8	Submission of architectural drawings.
3.44.9	Designs & drawings shall also be submitted in both PDF, AUTO CADD, EXCEL/WORD formats
3.44.10	Design staad files shall be submitted along with design documents
3.44.11	Submitted drawings shall contain section wise quantities of RCC, Structural steel & R/F steel
3.44.12	Submission of 3D- Model mentioned elsewhere is in the scope of bidder
3.44.13	Submission of As-built drawings.
3.44.14	Approval of drawings prepared by the bidder shall not relieve the bidder of his responsibility regarding the adequacy of design and correctness of the drawing.
3.44.15	The bidder shall also be required to review & revise the already approved design / drawings and / or include the substitution in steel sections depending upon material availability, unforeseen site condition and project time schedule requirements. These may have to be resorted to even after completion and approval of construction / fabrication drawings, without any extra cost to BHEL.
3.44.16	The bidder shall make efforts and ensure optimum design of the systems leading to saving in cost for BHEL and are leading to saving in completion time of the project, meeting customer Technical requirement and following the IS codes / Good construction practices including.
3.44.17	Bidder shall keep in mind the layout and shall take care of the overlapping with other facilities of the power plant.
3.44.18	Civil & Structural design and detail engineering of all facilities of AHP package in the scope of the bidder is to be done in-house. Scope matrix may please be referred regarding DOW for Civil & structural design. If the design is to be outsourced due to lack of suitable resources, bidder has to take prior approval for design outsourcing from BHEL. The design agency shall have prior experience in designs of power /material /steel/plant structures.

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3.44.19	During detail engineering, General arrangement drawings to be submitted for first review / approval along with Cat-II/Cat-I approved Mechanical GA drawings.
3.44.20	Wherever required in the absence of inserts plates etc. HILTI make or any other approved anchor fasteners supply & fixing to be included in the scope of bidder.
3.44.21	Foundations for BAH, shall be kept 800 mm below FGL to facilitate for movement of machineries after the foundation work.
3.44.22	In case of any underground piping considered, the wrapping and coating of the pipes as per the NTPC specification shall be in bidder's scope.
3.45	<p>Preliminary Geotechnical Investigation report is part of the tender documents and same shall be referred for estimation purpose.</p> <p>However, in case of change of layout, plot plan etc bidder may carryout additional Geotechnical Investigation if required without any extra cost and time as per technical specification.</p> <p>Removal of underground structure, carrying out the GPR testing in the related area of work shall be in the scope of the bidder.</p>
3.46	Tool and Plants: All the T&P required for the execution of the package till handing over of the Unit to end customer shall be in the scope of Bidder.
3.47	Before submitting the bid, the Bidder should inspect and examine the project site and its surroundings and should satisfy themselves as to the nature of the ground and subsoil, the quantities and nature of work, materials necessary for completion of the work and their availability, means of access to site and in general shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his offer. No consequent extra claims on any misunderstanding or otherwise shall be allowed by BHEL under any circumstances post award of the contract. Declaration in this regard shall be given as per format in NIT.
3.48	Bidder shall take all necessary precautions to protect all the existing equipment, structures, facilities and buildings etc. from the damage. In case any damage occurs due to the activities of the Bidder on account of negligence, ignorance, accidental or any other reason whatsoever, the damage shall be immediately rectified by the Bidder at his own cost to the satisfaction of NTPC/BHEL. The Bidder shall also take all necessary safety measures during erection/commissioning activities, at his own cost, to avoid any harm or injury to his/other's workers and staff from the equipment and facilities of the power plant.
3.49	<p>Construction of open storage yard and closed storage shed for the storage of materials shall be in the bidder's scope.</p> <p>Bidder shall also consider fencing/illumination of open storage and site fabrication area as and when allocated at site.</p>
3.50	Receipt, unloading, storage (open & closed), preservation, handling and

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	conservation of equipment at site is in bidder scope as per tender Specification.
3.51	Items though not specifically mentioned in the specification but needed to complete the equipment/systems to meet the intent of specification, shall also be deemed to be included unless otherwise specifically mentioned in exclusions. So, the Bidder should carefully study all the NIT documents and understand the complete scope of work as per NIT documents while submitting the offer.
3.52	PAINTS The Bidder's scope of work includes supply of paints and painting of all equipment/items and structures as per stipulated requirements in the specification and NTPC's standard color-coding scheme.
3.53	PRE-COMMISSIONING AND COMMISSIONING ACTIVITIES The Bidder's scope shall include all pre-commissioning and commissioning activities, materials and services as detailed in the other portion of NTPC NIT specifications (Erection Condition of Contract) including supply of all consumables, temporary equipment & piping (if any), instruments as per scope, labor, skilled manpower's etc.
3.54	GUARANTEE TESTS The guarantee tests for various equipment and systems shall be carried out as specified under chapter of Functional Guarantees. All special equipment, tools and tackles, instruments, measuring devices required for the successful conductance of Guarantee Tests shall be provided by the Bidder, free of cost. All costs associated with the tests shall be included in bid price. All statutory clearances necessary for guarantee tests shall be obtained by the bidder from respective authorities without any additional cost to BHEL.
3.55	SPARES The supply of Mandatory Spares is excluded from the scope of supply by the Bidder. However, the scope of supply by the Bidder includes start-up and commissioning spares, recommended spares, consumable spares, and any other spares required for the erection, testing, commissioning, performance guarantee (PG) test, start-up, and initial operation of the Ash Handling Plant.
3.56	SPECIAL TOOLS & TACKLES AND TEST/MEASURING EQUIPMENT One set of all special tools and tackles including testing, calibrating and measuring instruments required for erection, assembly, disassembly and maintenance & testing of all equipment/systems for the package shall be supplied by the Bidder. The Bidder shall not use these special tools, tackles and testing/measuring equipment for erection/commissioning purposes and shall be new and in an unused condition, when they are handed over to the Employer.
3.57	3D MODELLING SYSTEM

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	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.
3.58	GENERAL ENVIRONMENTAL REQUIREMENTS The Bidder shall execute all work at site as per the general environmental requirement and following the applicable codal provisions and local regulations in this respect. The Bidder shall provide and install suitable safeguards and facilities as approved by the Engineer for meeting general environment requirements. Guideline in this regard is detailed in NTPC NIT specification.
3.59	Achieving the PG parameters, for the bidder's supplied equipment/system and complete of AHP system as a whole. Any shortfall in PG parameters of the equipment/ system shall be suitably corrected by the bidder to avoid LD.
3.60	It is not the intent to specify completely herein, all aspects of design and construction of AHP Package. However, System shall conform in all aspects to high standard of engineering, design and workmanship and be capable of performing satisfactorily during continuous commercial operation in a manner acceptable to end user/BHEL, who shall interpret the meaning of the specification, drawings and shall have the right to reject or accept any work or material which in their assessment is not conforming to this specification and/or to applicable International Standards.
3.61	Notwithstanding the details furnished in this document, it shall be the responsibility of the bidder to complete the work in all respects, commission and complete integrated trial operation of system & performance tests of AHP Package to the satisfaction of end user/BHEL.
3.62	Any additional items required for the completeness of the Ash handling system package though not explicitly mentioned as per Mechanical, Electrical, C&I, Civil and Structural scope & Works in this specification shall also be in Bidder's scope of supply & works. At no point of time, BHEL would supply any item (except items specifically excluded and mentioned under BHEL scope of supply in this specification) for making the system complete. It is the total responsibility of the bidder to make the system complete in all aspect before handing over.
3.63	If the system is not working properly or the system has some inherent design flaws, in such a case, the successful bidder will be liable to correct the system without any price implication to BHEL and BHEL's decision will be final and binding in such cases. Also, the system has to be designed as per best industry practice while taking worst case scenario into account if nothing is mentioned in the technical specifications furnished by BHEL/NTPC.
3.64	Supply of all consumables like lubricants, oil, grease etc. for initial flushing at site, first fill during commissioning and replenishment/replacement of the same till handing over of the plant to NTPC is in the scope of bidder. Any oil, if lying in the equipment shall be drained at site and shall be refilled with new oil during commissioning. Special tools and tackles (as required), commissioning/start up

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	spares (List shall be furnished by bidder) required for the equipment/system supplied by the bidder shall be in the scope of bidder. The consumables requirement for BHEL supplied free supply items also shall be in bidder's scope.
3.65	Successful bidder shall submit the load data for Bottom ash hopper on priority after receipt of LOI.
3.66	Approach road, Chipping and Levelling/ Grading near erection location is in Bidder scope.
3.67	<p>INSURANCE: - BHEL shall arrange comprehensive insurance policy for total supply & services for main equipment/ system covering transit risks & loss, destruction or damage during handling at site, storage, civil works, erection, testing and commissioning up to trial operation/ completion of unit(s) including theft, sabotage, fire, lightning and other natural calamities.</p> <p>Inland Transit cum Storage and E&C Insurance shall be in BHEL Scope. Complete project insurance is under BHEL scope. Copy of MCE policy will be provided to the successful bidder in due course of time.</p> <p>a) In case of damage/loss/theft of goods at any stage starting from "in transit" till final handing over to BHEL, the seller/ contractor will support Purchaser (BHEL) for lodging claim with insurance company. Registering FIR with police department as applicable shall be in the scope of Seller/contractor. FIR/Insurance claims are to be lodged by the seller/ contractor within the time period as required in the insurance policy. Responsibility of completing all formalities with Police department & Insurance surveyor will be with seller.</p> <p>b) In case the damage/ loss/ theft of materials is attributable to negligence/ failure in discharging the duties and obligations of the successful bidder, the expenses incurred for repair/ replacement of such components in excess of the amount realized from the underwriters, limited to Normal Excess (Deductible Franchise) shall be recovered from the successful bidder.</p> <p>c) In case the claim is not honoured by the insurance company for the lapses of seller/ contractor, the seller/ contractor to arrange for repair/replacement of such items without any cost implication to BHEL.</p> <p>d) It will be responsibility of the successful bidder to replenish the items lost/ damaged in time without hampering the schedule of work and without waiting for settlement of insurance claim. Amount received from the underwriters on settlement of insurance claim shall be passed on to the successful bidder as and when available.</p> <p>e) The vendor/ contractor shall send Prior Dispatch intimation to the Insurance agency about the value of consignment, dispatch details, along with copy of invoice, LR / RR, Packing List/ delivery Challan, e-way bill etc. indicating the items dispatched (with their weights). A copy of the above intimation shall also be sent by the vendor/ contractor to BHEL. Failure in doing so, if results in the rejection of claim by the underwriter shall be the sole responsibility of the bidder and any loss due to this shall be made good</p>

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	by the bidder at its own cost.						
f)	Details of insurance policy and contact details of insurance company shall be provided to the successful bidder after placement of order.						
g)	It is the entire responsibility of the successful bidder to insure their workmen against accident and injury while at work as required by the relevant rules and to pay compensation, if any, to their workmen as per statutory act. The successful bidder shall also insure their staff against accident/ injury with Workmen's compensation policy, group personal insurance, etc., as may be applicable.						
h)	The successful bidder shall take insurance covering for all materials (excluding plant material), tools & plants, manpower, workers, etc., required to be provided & deployed for the job by the bidder.						
i)	These insurance covers have to be taken prior to start of work and they shall make available the policy to Construction Manager, BHEL for necessary verification before start of work. However, irrespective of such verification/ acceptance, sole responsibility to maintain adequate insurance cover at all times during the period of contract shall lie with the successful bidder. Regarding aforesaid insurance cover, the successful bidder shall directly deal with the insurance company for all matters regarding the insurance in his scope.						
j)	Successful bidder shall timely intimate dispatches/ discrepancy during contract operation, to the underwriter. The name of the underwriter and Policy No shall be intimated in due course of time.						
k)	Insurance as applicable for field work such as third-party liability, workmen compensation, Seller/Contractor's own Tools & Plants and automobile shall be arranged by the Seller/ Contractor (and cost of such insurance shall be included in the quoted price), which shall include but not limited to the following:						
1)	<p>Workmen's Compensation Insurance</p> <p>This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability disease or death of his or his Sub-Contractor's employees, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than the following:</p> <table><tr><td>Workmen's Compensation</td><td>:</td><td>As per Statutory Provisions</td></tr><tr><td>Employee's Liability</td><td>:</td><td>As per Statutory Provisions</td></tr></table>	Workmen's Compensation	:	As per Statutory Provisions	Employee's Liability	:	As per Statutory Provisions
Workmen's Compensation	:	As per Statutory Provisions					
Employee's Liability	:	As per Statutory Provisions					
2)	<p>Comprehensive Automobile Insurance</p> <p>This insurance shall be in such a form to protect the Contractor against all claims for injuries, disability, disease and death to members of public including the Employer's men and damage to the property of other arising from the use of motor vehicles during on or off the Site operations, irrespective of the Ownership of such vehicles. The liability covered shall be</p>						

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	<p>as herein indicated:</p> <p>Fatal Injury : Rs.100,000 each person</p> <p>: Rs.200,000 each occurrence</p> <p>Property Damage : Rs.100, 000 each occurrence</p> <p>3) Comprehensive General Liability Insurance</p> <p>The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act or omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil commotion.</p> <p>The hazards to be covered will pertain to all the Works and areas where the Contractor, his Sub-Contractors, his agents and his employees have to perform work pursuant to the Contract.</p> <p>The above is only illustrative list of insurance covers normally required and it will be the responsibility of the Contractor to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.</p>
3.68	<p>It is the entire responsibility of the successful bidder to insure their workmen against accident and injury while at work as required by the relevant rules and to pay compensation, if any, to their workmen as per statutory act. The successful bidder shall also insure their staff against accident/ injury with Workmen's compensation policy, group personal insurance, etc., as may be applicable.</p> <p>Lodging and settlement of the claim shall be the responsibility of the successful bidder. Necessary documents, if any, required for settlement of insurance claim shall be provided by BHEL.</p>
3.69	<p>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.</p> <p>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.</p>
3.70	<p>For the items, manufactured by BHEL, or for which BHEL Make is approved by customer as indicated in the attached NTPC Contract documents, bidder shall take quotation from BHEL and if the rates quoted by BHEL for the items is less, the items shall be procured from BHEL keeping in view the market viability of the product.</p>

3.71 Scope of Bidder

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Sl. No.	ITEM DESCRIPTION	QTY.	UOM
	SCOPE OF BIDDER		
A	'Design and Engineering: Includes basic engineering, detailed engineering, 3D Modelling, preparation and submission of engineering & drawings/documents calculations/ datasheets/ quality assurance documents/ field quality plans, as built drawings, Erection & commissioning procedures, operation & maintenance manuals, Performance Guarantee test procedures and obtaining approval from Customer / Customer's Consultant / BHEL of complete AHP (Mechanical, Civil & Structural, Electrical and C&I) as per the scope of specification	1	LOT
B	'SUPPLY: Manufacturing/Procurement, Inspection and testing at manufacturer's works, shop floor painting, packing & forwarding, supply, dispatch, transportation, delivery to site of complete Ash Handling System (Mechanical, Electrical, C&I) with all associated auxiliary and Sub Systems tools and tackles, start-up and commissioning spares as per the scope of specifications.	1	LOT
B1	Complete ASH HANDLING PLANT including all auxiliary systems along with civil, structural, mechanical, electrical & C&I as per BHEL NIT & Technical condition of contract, amendments & agreements till placement of order.	1	LOT
B2	Bidder's scope shall also include supply of start-up & commissioning spares applicable for bidder's supplied equipment / systems in this package deemed to have been included in the total bid price. Commissioning Spares as required till completion and handing over of project shall be in bidder's scope and deemed to have been included in the total bid price.	1	LOT
B3	Tool & Tackles as per BHEL NIT & Technical condition of contract, amendments & agreements.	1	LOT
C	INSTALLATION SERVICES, ERECTION & COMMISSIONING, EQUIPMENT TRIAL, INTEGRATED TRIAL OPERATION OF SYSTEM, PG TEST		
C1	Installation Services for entire AHP System including Receipt, Unloading, Pre- Commissioning, Commissioning, trial run of system (integrated operation) at site, operation and maintenance, training, performance guarantee tests and handing over of complete Ash Handling system to end customer including equipment & sub systems, complete with all accessories as per	1	LOT

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Sl. No.	ITEM DESCRIPTION	QTY.	UOM
	BHEL NIT & Technical condition of contract, amendments & agreements till placement of order.		
D	Freight/Transportation charges	1	LOT
E	Civil and Structural Works including Architectural works of ASH Handling Plant	1	LOT
3.72	The end user’s specification, General specifications/Requirements, Amendments, Clarifications, Pre-bid & Post-bid queries and BHEL-HSE manual are part of this specification and shall be read with this technical specification. Bidder shall submit a signed copy of this Tender Enquiry Specification along with all enclosures as Technical Offer with the Bid without any Deviation.		
3.73	NTPC NIT SPECIFICATION: Bidder shall carefully read All the NIT specifications, All the clarifications and amendments which are included as annexures and are part of the BHEL specification. List of the NTPC documents enclosed as annexures are:		
	<u>AMENDMENTS ISSUED BY NTPC</u>		
	Sl. No.	Amendment Name	Pages
	1	Errata to Section VI (Amendments 1 to 11)	700
	2	Commercial Amendment No. 01	3100
	3	Commercial Amendment No. 02	18
	4	Commercial Amendment No. 04	353
	5	Commercial Amendment No. 05	14
	6	Errata 01 to Commercial Amendment No. 05	14
	7	Amendment-01B to Technical Specifications	9
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	16	Commercial Amendment No. 10	1
	17	Amendment-4B to Technical Specifications	1
	18	Amendment-5B to Technical Specifications	1
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21	Commercial Amendment No. 12	2	

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	22	Amendment-6B to Technical Specifications	2
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	24	Amendment-5B to Technical Specifications	1
		Total Nos. of Pages	4576
	<u>CLARIFICATIONS ISSUED BY NTPC</u>		
	Sl. No.	Clarifications Name	Pages
	1	Clarification 01 & 02	147
	2	Clarification 01B	68
	3	Clarification No. 01 to Commercial Portion	95
	4	Clarification 2B	07
	5	Clarification No. 02 to Commercial Portion	31
	6	Clarification No. 03 to Commercial Portion	2
	7	Clarification No. 03B	30
	8	Clarification No. 04 to Commercial Portion	6
	9	Clarification No. 05 to Commercial Portion	2
	10	Clarification-04B	1
	11	Clarification No. 06 to Commercial Portion	5
	12	Clarification No. 05B	1
		Total Nos. of Pages	395
	<u>MAIN SPECIFICATIONS ISSUED BY NTPC</u>		
	Sl. No.	Amendment Name	Pages
	1	Section I-V	524
	2	Section VI-Part A	953
	3	Part-B-Book 1 of 5-Mechanical	963
	4	Part-B-Book 2 of 5-Electrical	586
	5	Part-B-Book-Control & Instrumentation	182
	6	Part B-Book 4 of 5- Civil Works	522
	7	Part-B-Book 5 of 5-QA	435
	8	Section-VI-Part-C	132
	9	Section-VI-Part-D	72
	10	Part-E-Tender Drawing-Electrical	127
	11	Part-E-Tender Drawing	91
	12	Corrigendum No. 02 To Invitation for Bids	43
		Total Nos. of Pages	4630
3.74	Electrical load details shall be furnished within one month from date of LOI.		
3.75	Complete detail engineering drawings, calculations, selection of components etc. shall be reviewed & subject to approval of BHEL/Customer during detail engineering.		

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3.76	Bidder to note that completion of engineering within the L1 schedule is a major milestone, so bidder shall put all endeavor to complete the same without linking to dispatch. As dispatches shall be sequential and it may so happen that actual requirement to site as per supply period, mentioned in L1 schedule is staggered/beyond the engineering completion schedule. In such event successful bidder shall not delay the ordering of BOI/ SMI on the pretext /issues of deferred supply period, shelf life of item, warranty issue etc. All care to be taken by the bidder in this regard during offer preparation. Similarly, during contract execution successful bidder will ensure the same while ordering BOI to their sub-vendor such that there is no hindrance in drawing submission & engineering completion.
3.77	<p>Bidder shall furnish the L-2 project schedule indicating various milestones and constraints along with the bid within 1 month of the issue of LOA and bidder shall furnish the L-3 project schedule in-line with L-2 schedule after award of the contract within 3 months from the date of LOA.</p> <p>Bidder shall submit the detailed L2 schedule for completion of entire scope of work, in line with the L1 schedule. The detailed L2 schedule shall cover details like basic engineering, detailed engineering, manufacturing, inspection & supply, erection, testing & commissioning etc. and shall be submitted by bidder within one month from the date of Letter of Intent (LOI). The L2 schedule shall be reviewed by BHEL and shall be mutually agreed. Bidder to strictly adhere to the mutually agreed L2 schedule. In case of non-compliance to the agreed schedules/ milestones, then it would be presumed that bidder is not fulfilling contractual obligations. In such cases, BHEL reserves the right to take suitable actions as per the provisions of the contract.</p>
3.78	Contractor shall ensure at all times that his work area and approach / access roads are free from accumulation of water, so that the materials are safe and the erection/ progress schedule are not affected. No separate claim in this regard shall be admitted.
3.79	Any national and international codes and/or standards used in the design of the plant and equipment shall be shown by the bidder to the Employer as and when required during contract period Cost of same shall be deemed included in the total cost quoted by the bidder.
3.80	The design, engineering, manufacture, inspection and testing of the equipment shall comply with all the currently applicable statutes, regulations and safety codes in the locality where the equipment is to be installed and shall also conform to the latest edition of Indian and other international standards and codes. Nothing in this specification shall be construed to relieve the bidder of the required statutory responsibility. In case of any conflict & ambiguity in the standard to be followed the decision of BHEL/ Customer shall be final and binding.
3.81	Bidder shall strictly follow and adhere to the guidelines laid down in the enclosed BHEL's health, safety and environment manual (HSE) and PPE as per ANNEXURE-11 .

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3.82	Periodic checks for stored items such as rotation of bearings ends, belt drum and other condition checks shall be the responsibility of bidder. The objective is to ensure that the equipments/ items are not damaged due to long storage.
3.83	Bidder shall make their own arrangements well in advance for erection equipment such as crane, hydra, Farhana, trolley, truck, trailer, all tools& tackles, via chain pulley block, wire ropes, grinding machine, welding machines (including single phase portable welding machine), cutting sets, coupler, pulling & lifting tools such as slings, D-shackles, winches, etc. including precision measuring instruments that are required for E&C purposes at no extra cost to BHEL.
3.84	Bidder shall submit weekly engineering progress reports in BHEL's format and depute full project team for attending all project review meetings called by BHEL/ end user's Consultant / end user without fail.
3.85	Bidder to ensure sufficient manpower throughout the contract for carrying out engineering and erection & commissioning activities in parallel at site.
3.86	<p>Smart Project Management System (SPMS)</p> <p>BHEL shall deploy Smart Project Management System (SPMS) in line with NTPC specifications. The successful bidder shall engage with BHEL and provide required support for implementation of the same.</p> <p>Detailed instructions for the same shall be provided by BHEL during execution of the order/ contract. The bidder shall comply with the same.</p> <p>The seller/ contractor shall depute experienced manpower conversant with the system usage of SPMS for proper implementation.</p>
3.87	Successful bidder shall furnish the detail packing /shipment box details with information like packing box size, type of packing, weight of each consignment, sequence no. of dispatch, no. of consignment for each deliverable item against each billing break up units/ billable blocks. Without these details, the BBU shall not be approved during detail engineering.
3.88	All items/equipment shall be dispatched in properly packed condition (i.e. no item shall be dispatched in loose condition such that it becomes difficult to store/identify its location at site at later stage).
3.89	All critical items and critical loose items which normally get misplaced / pilfered at site must be sent to site in containers (container shall be free from corrosion against saline water), if space is available in container from previous item dispatch, then same container can be used for subsequent dispatches which need container storage. Upon completion of the contract the Containers shall be the property of BHEL.
3.90	All the equipment shall be of robust construction, suitable for operation in dusty, humid and outdoor operation.
3.91	Material of construction (MOC) for all equipment/components if not mentioned in

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	end user's/BHEL NIT spec shall be subject to BHEL/ end user's approval during detail engineering. Accordingly, bidder shall consider MOC for all equipment/component as per best engineering practice, global standard and global references.
3.92	<p>Quality assurance and inspection of equipment shall be as per end user's specification. However, modalities of inspection (Stage, Final, In-process) shall be finalized during detail engineering after submission of quality assurance plan (QAP).</p> <p>Bidder shall depute continuously and maintain requisite sufficient nos. of engineers and supervisors, at site for ensuring erection of embedment /opening, etc. during civil construction, supervision of E&C, coordination with BHEL/NTPC and commercial activity for the AHP EPC package.</p> <p>Supply of stools, foundation bolts and other embedment in concrete shall be in scope of bidder. However, timely supply & correctness of erection shall be ensured & checked by bidder.</p>
3.93	<p>Bidder's staff shall necessarily comply and ensure following at site:</p> <ol style="list-style-type: none"> Correctness checking during civil construction as per mechanical drawings. Frequent condition checks of stored material and its transportation to erection front. Stage wise erection of all Mechanical, Electrical and C&I equipment & accessories. Arranging technical specialist for supervision of specialized jobs from respective OEMs. Measurement Protocols Preparation of Protocols Any Protocols as per FQP Any other activity required for successful E&C at site
3.94	<p>Bidder shall necessarily comply and ensure following w.r.t Testing, Trial Run & Commissioning activities:</p> <ol style="list-style-type: none"> Initiate start-up and commission the complete unit (all mechanical, electrical & C&I equipments and machine as a whole) in an integrated manner under his sole responsibility. Perform the required adaptation, adjustment and hot run the equipment to demonstrate its guaranteed capacity. Rectify the defects observed during commissioning under his sole responsibility without any additional cost implication to BHEL. Results of start-up tests and commissioning etc. will be recorded jointly by the bidder and end user / end user's consultant.
3.95	<p>Bidder shall necessarily comply and ensure following w.r.t Post-Commissioning, PG testing, Reliability Run Test of the equipments /machine and preparation and submission of signed test protocols:</p> <ol style="list-style-type: none"> Submit all final documents in compliance with the provisions of this

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	<p>specification & amendments.</p> <p>b) Submit test procedures, and test evaluation methods prior to taking up Performance Tests etc.</p> <p>c) Offer the machine for conducting Performance Guarantee Tests, Reliability Run Test etc.</p> <p>d) Carry out the PG tests and Reliability Run Test etc. under their instruction and take full responsibility of the operation.</p> <p>e) Supply all consumables, change parts, special tools and tackles and commissioning spares in coordination with bidder's headquarter.</p> <p>f) Undertake O&M Services (as described and required for the subject package).</p> <p>Note:</p> <p>1) Bidder should have met, to the satisfaction of end user/ end user's, all the observation, if any, contained in the Preliminary Acceptance Certificate.</p> <p>2) The performance tests for all plant equipment will be carried out to satisfy all operating parameters as per the relevant clauses of the contract technical specification for the equipment under consideration.</p> <p>3) It shall be the responsibility of the Bidder to provide all the necessary support required for the Trial Operation, Commercial Operation Declaration and PG Test of the main plant.</p> <p>4) Acceptance Tests shall mean such tests as prescribed in specifications and/ or tests mutually agreed upon by Purchaser and Seller/ Contractor, to be performed by Seller/ Contractor during the process at vendors/ sub vendors works and after/ during the erection/ commissioning of equipment to establish its satisfactory operation as per specifications.</p> <p>5) Commissioning shall mean all activities inter alia successful/ satisfactory completion of Initial Operation and readiness of the contracted/ ordered package / plant and materials unit wise/ set wise/ lot wise/ individual sub-system etc. including associated stand by for TRIAL operation. This will include all consumables and inputs required for pre-commissioning. (Refer Annexure-B).</p> <p>6) Trial Operation or Reliability Run shall mean continuous integrated operation of the contracted/ ordered package /plant and materials unit wise/ set wise/ lot wise/ individual sub-system etc. Under varying loads as proof of satisfactory operation for a specified period for further beneficial use in power plant/Unit. The procedure to be agreed during detailed engineering (Refer Annexure-B).</p> <p>7) Performance Guarantee Test: A test to be conducted by the vendor and witnessed by owner/ purchaser, as per procedure submitted by the vendor and approved by owner/ purchaser describing the objective of the test, detailed procedures to test the guaranteed parameters, obligations as per the order/ contract, results presentation procedure and verification and acceptance criterion (Refer Annexure-B).</p> <p>8) HANDING OVER package wise definition in line with Annexure-B</p>
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3.96	It shall be the sole responsibility of bidder's staff to do measurement and other protocols, prepare, maintain (record keeping) and follow all stage wise erection & commissioning protocols in line with FQP and end user's requirement. Also, getting the protocols signed by all concerned agencies - BHEL's Engineer and end user/ end user's Consultant shall be the responsibility of bidder's staff. Special care shall be taken for all payment linked protocols so that it is ensured that such protocols are signed well within time and no payment to BHEL is held up by end user on account of these protocols.
3.97	<p>Bidder to ensure that there shall be no loss of erection time due to any of the following reasons:</p> <ul style="list-style-type: none"> a) Faulty/ Defective supply of parts/equipments b) Improper packing and transportation c) Any short supply/ delay in supply d) Any mismatch/ wrong supply e) Non-availability of replacement item f) Any site modification, if it is due to mismatch between bidder's GA, detail drawings. etc.
3.98	<p>Bidder shall take care of following points:</p> <ul style="list-style-type: none"> a) In general, End User's/BHEL's working hours/Holidays/weekly off at site shall be followed by bidders and it shall be informed time to time by BHEL's Resident Manager. Accordingly, bidder to align their site staff's working hours/Holidays/weekly off at site so that there is no loss of work and delay in project milestones& targets. b) BHEL's Resident Manager (at his sole discretion) may require bidder's services on weekly off/ holidays due to project exigencies; bidder to extend necessary support required during such events. c) While leaving the site, bidder's staff shall inform & take written permission from BHEL's resident manager as well. d) Suitable replacement shall be ensured during any personal emergency to the bidder's executive deputed at site at any given point of time and all such changes shall be brought to the notice of BHEL's Resident Manager.
3.99	<p>Bidder shall necessarily comply and ensure following w.r.t <u>Storage & Preservation</u> for main supply material at site:</p> <ul style="list-style-type: none"> a) Prepare and submit the "Dispatch & Receipt Reconciliation Report". b) Make periodic condition checks for the safety of boxes/items during storage of main material, spares etc. c) Maintain requisite inventory records. d) Bidder has to keep the material properly as per approved FQP, Storage & Preservation guidelines and storage work instructions (WI). In case bidder fails to adhere the above guidelines/storage WI and any consequential damages/missing items due to non-adherence of above guidelines/storage

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	<p>WI, no insurance claim will be entertained by BHEL and items shall be replaced by bidder without any cost implication to BHEL.</p> <p>e) Monthly inspection report to be submitted by successful bidder to BHEL site-in charge / Resident Manager for storage and preservation of materials kept under closed / open stores as part of RAB. In case bidder fails to report the status in anyone of the month, further any damages reported in the subsequent month will not be entertained by BHEL and entire item has to be supplied by bidder at their own cost. No insurance claim will be entertained.</p> <p>f) Bidder to refer GCC document as issued by BHEL.</p>
3.100	<p>TECHNICAL SPECIFICATION - CIVIL AND STRUCTURAL SCOPE OF WORK</p> <p>Scope of work for the design of Civil, Structural & Architectural Engineering and for the structures list in the scope matrix involves:</p> <ol style="list-style-type: none"> 1. The Bidder shall provide Design details and complete Design documents of substructure, superstructure and other relevant drawings for the structures list in the scope matrix. 2. Design and drawings of equipment foundations associated with structures listed in the scope shall be done as a part of the main structure without any extra cost to BHEL. 3. Structure / building wise civil arrangement drawings, showing plan, elevation/section as required with complete load data for various loads and load combinations prepared by vendor/bidder. 4. Floor plans, elevations, cross sections etc., views of all buildings. 5. Submission of detail design & drawings of sub structure & super –structure involving RCC, structural steel & architectural details. 6. Submission of Design & drawings of equipment foundations 7. Submission of design & drawings of all floors including ground level grade slab along with equipment foundations, approach roads, trenches, paving, sumps, surrounding drains, Sewage water and waste water drainage system etc., 8. Submission of architectural drawings. 9. Designs & drawings shall also be submitted in both PDF, AUTOCADD, EXCEL/ WORD formats 10. Design staad files shall be submitted along with design documents. 11. Submitted drawings shall contain section wise quantities of RCC, Structural steel & R/F steel. 12. Submission of 3D- model mentioned elsewhere is in the scope of bidder 13. Submission of As-built drawings

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	<p>14. Approval of drawings prepared by the bidder shall not relieve the bidder of his responsibility regarding the adequacy of design and correctness of the drawing.</p> <p>15. The bidder shall also be required to review & revise the already approved design / drawings and / or include the substitution in steel sections depending upon material availability, unforeseen site condition and project time schedule requirements. These may have to be resorted to even after completion and approval of construction / fabrication drawings, without any extra cost to BHEL.</p> <p>16. The bidder shall make efforts and ensure optimum design of the systems leading to saving in cost for BHEL and are leading to saving in completion time of the project, meeting customer Technical requirement and following the IS codes / Good construction practices including.</p> <p>17. Bidder shall keep in mind the layout and shall take care of the overlapping with other facilities of the power plant.</p> <p>18. Civil & Structural design and detail engineering of all facilities of AHP package in the scope of the bidder is to be done in-house. Scope matrix may please be referred regarding DOW for Civil & structural design. If the design is to be outsourced due to lack of suitable resources, bidder has to take prior approval for design outsourcing from BHEL. The design agency shall have prior experience in designs of power /material /steel/plant structures.</p> <p>19. During detail engineering, General arrangement drawings to be submitted for first review / approval along with Cat-II/Cat-I approved Mechanical GA drawings.</p> <p>20. Wherever required in the absence of inserts plates etc. HILTI make or any other approved anchor fasteners supply & fixing to be included in the scope of bidder.</p> <p>21. Foundations for BAH, shall be kept 800 mm below FGL to facilitate for movement of machineries after the foundation work.</p> <p>22. In case of any underground piping considered, the wrapping and coating of the pipes as per the NTPC specification shall be in bidder's scope.</p>
3.101	<p>Erection Conditions of Contract- Bidder has to consider and envisage mobilization of all resources required, including manpower, in a shortest possible time during execution time. For this bidder has to consider advance resource planning so that erection by the successful bidder is not delayed.</p> <p>Site Activities- All site activities like unloading, receipt, storage, security & handling material, civil/structural works in the bidder's scope and BHEL's free issue items in this package, erection and commissioning, trial run & PG test, handing</p>

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	<p>over the complete system to customer shall be in bidder's scope.</p> <ol style="list-style-type: none"> 1. During such erection work, bidder shall be responsible to ensure correct implementation of their design of civil and structural works at site. 2. Storage space shall be allotted by BHEL/Customer either inside/outside the plant premises based on availability of space. Further levelling/ grading shall be done by bidder for proper storage of material. 3. Vendor to ensure sufficient manpower throughout the project for erection and commissioning activities on all equipment's, systems etc. 4. Cost of repair/replacement of damaged equipment /parts, if any, including material & maintenance works shall be borne by successful bidder. 5. The fabrication yard, the open yard and closed yard shall be relocated as per the project requirements. The vendor must ensure appropriate lifting arrangements and manpower for shifting the items to the desired location, without any cost implication to BHEL. 6. Required water (through tankers/bore wells) for leakage testing (As applicable) of Bottom Ash hopper shall be arranged by bidder in the absence of service water at the nearest place, without any cost implication to BHEL. 7. Calibration of instruments before commissioning is included in bidder 'scope. 8. All type of testing shall be performed by bidder during erection & commissioning stage without any cost implication to BHEL. 9. Whenever power fails, DG back up is required. DG set to be arranged and kept as standby by bidder, whenever required. Also, for carrying out works where power sockets are not available. The construction power source shall be relocated according to the project requirements. The vendor must arrange temporary cable connection with accessories to the working location of the Ash handling system, without any cost implication to BHEL.
3.102	<p>On completion of erection of any major items along with its auxiliaries, the same shall be thoroughly inspected by the bidder together with BHEL/ end user's Engineers for correctness, completeness and acceptability for Pre-Commissioning Tests. Though the end user's Engineers associate themselves with such inspection, the responsibility for declaration for correctness, completeness and acceptability shall rest with the bidder and the pre-commissioning tests shall be carried out after such declaration. The pre-commissioning tests to be performed at site as well as necessary documentation and formats for the protocols to be signed during and after the tests shall be prepared by the bidder considering relevant Indian/International Manufacturer's standards as applicable and finalized by the end user sufficiently in advance through mutual discussions. On conclusion of satisfactory pre-commissioning tests of each equipment, the trial operation shall start consistent with parameters of the technical specifications.</p>
3.103	<p><u>Royalty & other fees:</u></p> <p>Royalty challan and statutory documents shall be submitted along with RA Bills for processing of Bills. In the event of non-availability of royalty/statutory documents along with RA Bill, BHEL site at its discretion may opt to withhold relevant amount</p>

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	<p>from the running RA Bills and process the bill further to maintain proper cash flow and continuity of work.</p> <p>The Contractor shall pay and indemnify the Employer against any default in payment of Royalties or Seignorage Fee or Cess or other charges by the Contractor or the agency from which the Contractor purchases soil/earth, sand, stone/aggregates, metals, minerals or minor minerals.</p> <p>In the event of there being a statutory increase in the rates of royalty charges/fresh levy of royalty on materials, the same shall be reimbursed to the Contractor upon submission of original challan by him of having made the payments at revised rates. In the event of there being a decrease in such rates, the same shall be recovered from the Contractor. The base date for calculating the increase or decrease shall be the rate as on seven (7) days prior to the date of Techno-commercial (Envelope-I) bid opening. The total reimbursement (positive or negative) as specified above, to be paid or recovered, shall however be calculated on the quantity of materials actually accepted for payment), whichever is less, and on the basis of documentary evidence of Govt. Notification. However, the Contractor will settle claims, if any, on account of over charge by the State Authorities.</p>
3.104	<p>OPERATION & MAINTENANCE (O&M):</p> <p>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.</p> <p>Bidder shall record complete AHP drives operations data like time of start / stop time of various drives of AHP, MW generation & ash evacuation data for each hopper, number of evacuation cycles completed in each pass / field, etc. Bidder shall prove the PG test parameters during O&M and ensure that system is streamlined so that the designed Operating Hours is achieved, which is needed for handing over of the system.</p> <p>Bidder shall maintain WORK PERMIT ISSUE / CANCELLATION Slips for all types of Electrical Isolation & Service resuming. Bidder shall maintain, Safety Log book for Clearance with signatures of all concerned engineers from Site operations, Mechanical, Electrical and C&I department of Bidder & BHEL for all types of drive /system Operations from DCS. Standard SAFE ELECTRICAL OPERATION procedures to be followed strictly by bidder.</p>
3.105	<p>GUARANTEE TESTS</p> <p>The guarantee tests for various equipment and systems shall be carried out as specified under chapter of Functional Guarantees. All special equipment, tools and tackles, instruments, measuring devices required for the successful conductance of Guarantee Tests shall be provided by the Bidder, free of cost. All costs associated with the tests shall be included in bid price.</p> <p>All statutory clearances necessary for guarantee tests shall be obtained by the bidder from respective authorities without any additional cost to BHEL.</p>

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Chapter - IV: Time Schedule

4.0	TIME SCHEDULE- After the issuance of the LOI for the EPC PACKAGE FOR ASH HANDLING SYSTEM, the total work shall be completed within 33 months.																							
4.1	Zero date - Date of Issuance of LOI shall be considered as the Zero Date for the Package																							
4.2	Schedule of important Activities: <table><tr><th>SL No</th><th>Description</th><th>Tentative Completion Schedule</th></tr><tr><td>1</td><td>Basic Engineering</td><td>Within 1.5 Months</td></tr><tr><td>2</td><td>Detailed Engineering</td><td>Within 12 Months (M1)</td></tr><tr><td>3</td><td>Dispatch and Completion of the Supplies</td><td>Within 24 Months</td></tr><tr><td>4</td><td>Readiness of Bottom Ash Hopper for Boiler Light Up</td><td>Within 26 Months (M2)</td></tr><tr><td>5</td><td>Erection and Commissioning Completion</td><td>Within 30 Months</td></tr><tr><td>6</td><td>Completion of Facilities</td><td>Within 33 Months</td></tr></table>			SL No	Description	Tentative Completion Schedule	1	Basic Engineering	Within 1.5 Months	2	Detailed Engineering	Within 12 Months (M1)	3	Dispatch and Completion of the Supplies	Within 24 Months	4	Readiness of Bottom Ash Hopper for Boiler Light Up	Within 26 Months (M2)	5	Erection and Commissioning Completion	Within 30 Months	6	Completion of Facilities	Within 33 Months
SL No	Description	Tentative Completion Schedule																						
1	Basic Engineering	Within 1.5 Months																						
2	Detailed Engineering	Within 12 Months (M1)																						
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5	Erection and Commissioning Completion	Within 30 Months																						
6	Completion of Facilities	Within 33 Months																						
4.3	Intermediate Milestones																							
4.3.1	Provision of Penalty in case of slippage of Intermediate Milestones: In case of slippage of Two Major Intermediate Milestones, mentioned as M1 & M2 above, delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to F-14.																							
4.3.2	Two Major Intermediate Milestones are identified as M1 and M2. <table><tr><th>Milestone</th><th>Tentative Completion Schedule</th></tr><tr><td>Detailed Engineering</td><td>Within 12 Months (M1)</td></tr><tr><td>Readiness of Bottom Ash Hopper for Boiler Light Up</td><td>Within 26 Months (M2)</td></tr></table>			Milestone	Tentative Completion Schedule	Detailed Engineering	Within 12 Months (M1)	Readiness of Bottom Ash Hopper for Boiler Light Up	Within 26 Months (M2)															
Milestone	Tentative Completion Schedule																							
Detailed Engineering	Within 12 Months (M1)																							
Readiness of Bottom Ash Hopper for Boiler Light Up	Within 26 Months (M2)																							
4.3.3	In case delay in achieving M1 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 2% of executable contract value, will be withheld.																							
4.3.4	In case delay in achieving M2 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 3% of executable contract value, will be withheld.																							
4.3.5	Amount already withheld, if any against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 Milestone.																							
4.3.6	Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment (corresponding																							

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Chapter - IV: Time Schedule

	RA Bill) and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.
4.3.7	Final deduction towards LD (if applicable), on account of delay attributable to contractor shall be based on final delay analysis on completion/ closure of contract. Withheld amount, if any due to slippage of identified intermediate milestone(s) shall be adjusted against LD or released as the case may be.
4.3.8	In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted into recovery.
4.3.9	Contractor shall make all possible efforts to expedite the activities, in case of delay of any intermediate milestone, to maintain overall project completion schedule.
4.3.1	*Executable Contract Value - Value of work for which inputs/ fronts were made available to contractor and were scheduled for execution till the date of achievement of that milestone.
4.4	<p>Inputs exchange between the EPC vendor and BHEL in line with the scope defined in the relevant annexures shall be progressive.</p> <p>Detailed L-2 Schedule and L3 Schedule, including inputs requirement dates from BHEL, shall be prepared and submitted by Vendor for approval of BHEL.</p> <p>To meet above schedule in general, and any other intermediate targets set, to meet customer/project schedule requirements, vendor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.</p>
4.5	Bidder may note that there are certain structures which shall be in close vicinity to the Main BTG Area. Completion of those equipment foundations and related works shall be prioritized in consultation with BHEL Resident Manager at site, so that BHEL's works in the main plant area doesn't hamper.
4.6	<p>DELIVERY / COMPLETION SCHEDULE (FOR Turnkey Packages E&C contract):</p> <p>E&C shall be considered completed after completion of TRIAL operation PG test and Handing over (as applicable) of complete package.</p>
4.7	<p>GUARANTEE/WARRANTEE/ DEFECT LIABILITY PERIOD: -</p> <p>The Contractor warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed.</p> <p>The Guarantee/ warrantee/ defect liability Period shall be "Eighteen (18) months from the date of Completion of the Facilities (or any part thereof) or twelve (12) months from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs".</p> <p>If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant and Equipment supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation</p>

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Chapter - IV: Time Schedule

	<p>and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good (as the Contractor shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:</p> <p>(a) improper operation or maintenance of the Facilities by the Employer</p> <p>(b) operation of the Facilities outside specifications provided in the Contract</p> <p>(c) normal wear and tear.</p> <p>All guarantee/ warranty/ Defects Liability and Latent Defects Liability are by the Successful bidder.</p> <p>“Facilities” means the Plant and Equipment to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor for the Tendered scope/ Package.</p> <p>“Completion” means that the Facilities have been completed operationally and structurally and put in a tight and clean condition, and that all work in respect of Pre-commissioning of the Facilities has been completed; and Commissioning has been attained as per Technical Specifications.</p> <p>“Pre-Commissioning” means the testing, checking and other requirements specified in the Technical Specifications that are to be carried out by the Contractor in preparation for Commissioning.</p> <p>“Commissioning” means operation of the Facilities by the Contractor; which operation is to be carried out by the Contractor for the purpose of carrying out Guarantee Test(s).</p> <p>“Operational Acceptance” means the acceptance by the Purchaser/ Employer of the Facilities, which certifies the Contractor’s fulfilment of the Contract in respect of Functional Guarantees of the Facilities.</p> <p>Operational Acceptance shall occur in respect of the Facilities when the Guarantee Test has been successfully completed and the Functional Guarantees are met.</p>
4.8	<p>LATENT DEFECT LIABILITY:</p> <p>At the end of the Defects Liability Period, the contractor’s liability ceases except for latent defects. The contractor’s liability for latent defects warranty shall be limited to a period of five (5) years from the end of Defects Liability Period. For the purpose of this clause, the latent defects shall be the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the Defects Liability Period mentioned above.</p>

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Chapter - V: LIMITING GUARANTEE PARAMETERS

5.1	Station Auxiliary Power Consumption The station auxiliary power consumption for the subject package shall not exceed 4800 kW as indicated in Annexure-13. Also, the Bidder shall furnish equipment wise breakup of power consumption for all the equipment. Bidder shall furnish equipment wise power consumption for list of equipment drives with corresponding weightage factors.
5.2	Liquidated damages shall be applied at the rate of US \$ 4,661 on account of shortfall in auxiliary power consumption during PG test as defined under SUB-SECTION-IV FUNCTIONAL GUARANTEES, LIQUIDATED DAMAGES of TECHNICAL SPECIFICATIONS SECTION – VI, PART-A BID DOC. NO
5.3	Performance Guarantee The parameters/capabilities to be demonstrated for various systems/ equipment shall as per functional guarantees chapter of NTPC NIT specification and amendments (Annexure-6&7). Liquidated damages shall be applied as per SCC on account of shortfall in equipment guaranteed parameters during PG test.

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Chapter - VI: Sub-Qualification Requirements

6.0	SUB- QUALIFICATION REQUIREMENT Bidder to note that following sub-Qualification requirements to be met and further clearance to be taken from BHEL/NTPC for vendor approval as per procedure laid down for vendor approval from NTPC. Only BHEL & NTPC approved vendor shall be considered before placement of order on sub-vendors and same has to be ensured by the successful bidder
6.1	Ash Slurry Disposal Pumps: The ash slurry pumps to be supplied shall be from such manufacturers who have in the past supplied and installed ash slurry pumps for similar duty applications and have at least two (2) nos. pumps of same models that are being offered having capacity not less than 1000 cubic meters per hour at each of the two (2) different stations which are in successful operation for at least two (2) years.
6.2	DESIGN: Bidder or its design agency (ies) should have carried out the design and detailed engineering of civil and structural works for Main plant building or Ash Handling Plant, Mill bunker building, of coal based/Lignite based power plant/ Nuclear Power Plant of 500 MW or higher capacity.
6.3	Provenness criteria of all the other Items/Equipments which shall be part of the package and required for the completion of the package shall have to be met by the bidder in line with the attached NTPC Provenness criteria Sub Section I-A. (Annexure-20).

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Chapter - VII: Terms of Payment and Other Commercial Terms

7.0	PAYMENT TERMS
7.1	Supply for Plant and Equipments (excluding Mandatory Spares and Type Tests) quoted on Ex-works (India) basis
7.1.1	70% of Ex-works price will be released on pro-rata basis against dispatch on submission of complete set of valid documents, as specified under Clause no 7.8 and subheadings.
7.1.2	<p>20% of Ex-works price with freight will be released on pro-rata basis against Material Receipt Certificate (MRC) / Store Receipt Voucher (SRV) issued by project site engineer of purchaser/customer on submission of complete set of valid documents, as specified in Clause no 7.8 and subheadings.</p> <p>Collection of Material Receipt Certificate from Site/ Owner and its submission for claiming the payment shall be the responsibility of the Seller/ Contractor.</p>
7.1.3	<p>10% of Ex-works price will be released on pro-rata basis against the completion of following activities (2.5% against each activity) on submission of complete set of valid documents, as specified.</p> <ol style="list-style-type: none"> Commissioning (no load) of unit / set / system / package. Successful Trial Operation of unit / set / system / package. Successful completion of the Performance Guarantee (PG)/ Demonstration Test at site of unit / set / system / package. Submission of all final documents as per Technical Specifications and handing over of unit/ set / system / package including common facilities, if any to end Customer. <p>The unit / set / system / package for the purpose of the payment shall be either as per price format or mutually agreed during approval of billing schedule. Further, the purchaser reserves the right to withhold any amount for the agreed scope of work, not completed/ partially completed/ pending punch points etc. Decision of the Purchaser in this regard shall be final and binding on the seller/ contractor.</p> <p>If PG test is not applicable for the tendered package, payment against successful completion of PG test shall be payable against successful completion of Trial operation.</p>
7.1.4	<p>Notes:</p> <ol style="list-style-type: none"> In case trial operation of the unit / set / system / package cannot be completed within the original scheduled completion period or 6 months after completion of commissioning (no load) of the unit / set / system / package, for reasons not attributable to the seller /contractor payments due for completion of trial operation of such unit / set / system / package shall be payable on submission of Bank Guarantee (BG) of equivalent amount, valid initially for 12 months (+3 months claim period), and further extended till completion of trial operation of unit / set / system / package , as applicable. If the PG test is not conducted within the 12 months from the date of

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	successful completion of trial operation of the unit / set / system / package or 18 months after completion of commissioning (no load) of the unit / set / system / package, whichever is earlier, for reasons not attributable to the vendor/ contractor, payments due for completion of PG test and handing over of such unit / set / system / package can be released against Bank Guarantee of an equivalent amount, valid initially for 12 months and extendable till completion of Performance Guarantee (PG)/ Demonstration Test at site and handing over of the unit / set / system / package.
7.2	VOID
7.3	CIVIL and Site Fabricated Structural Works for AHP Package
7.3.1	90 % (Ninety percent) of the total Civil and Site Fabricated Structural Works Price Component of Contract Price shall be paid progressively on certification by the BHEL/Project Manager for the quantum of work completed and by BHEL/Project Manager's field quality surveillance representative for the successful completion of quality check points involved in the quantum of work billed.
7.3.2	<p>10 % (Ten percent) of contract Civil and Site Fabricated Structural works price along with taxes (as applicable) shall be released against (2.5% against each activity)</p> <ol style="list-style-type: none"> Successful Trial Operation of unit / set / system / package. Successful completion of the Performance Guarantee (PG)/ Demonstration Test at site of unit / set / system / package. Submission of all final documents as per Technical Specifications e.g. As-built drawings etc. as applicable and Liquidation of Punch Point and handing over of unit / set / system / package including common facilities, if any to end Customer. <p>BHEL site/ Region Hqrs / ISG, at discretion, may further split up the above percentages and effect payment to suit the site condition, project cash flow requirement, according to the progress of work.</p> <p>If PG test is not applicable for the tendered package, payment against successful completion of PG test shall be payable against successful completion of Trial operation</p>
7.3.3	<p>Note:</p> <ol style="list-style-type: none"> 1) In case trial operation of the unit / set / system / package cannot be completed within the original scheduled completion period or 6 months after completion of commissioning (no load) of the unit / set / system / package , for reasons not attributable to the seller /contractor, payments due for completion of trial operation of such unit / set / system / package shall be payable on submission of Bank Guarantee (BG) of equivalent amount, valid initially for 12 months (+3 months claim period), and further extended till completion of trial operation of unit / set / system / package , as applicable.

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	<p>2) If the PG test is not conducted within the 12 months from the date of successful completion of trial operation of the unit / set / system / package or 18 months after completion of commissioning (no load) of the unit / set / system / package , whichever is earlier, for reasons not attributable to the vendor/ contractor, payments due for completion of PG test and handing over of such unit / set / system / package can be released against Bank Guarantee of an equivalent amount, valid initially for 12 months and extendable till completion of Performance Guarantee (PG)/ Demonstration Test at site and handing over of the unit / set / system / package .</p> <p>However, seller/ contractor has to fulfil all formalities for final billing/ contract closing, prior to drawing the final payment.</p>
7.4	PAYMENT OF SERVICE(S) CHARGES: DEMONSTRATION CHARGES, SUPERVISION OF ERECTION / COMMISSIONING CHARGES, ENGINEERING CHARGES, O&M CHARGES (IF APPLICABLE, AS SEPARATE LINE ITEM OF PRICE FORMAT)
7.4.1	<p>100% of basic price, along with applicable GST, on successful completion of the activity will be released on pro-rata basis within 60 days for others, from the date of certificate for the completion of said activity, issued by on Site certification/ certification by engineering as applicable or 45 days for others from the date of submission of complete set of valid documents, whichever is later. However, Payment of O&M, if applicable will be released on quarterly basis or as specified in NIT, on Site certification/ certification by engineering.</p> <p>Supervision of E&C charges, if applicable should not exceed 2% of the total contract value, failing which the quoted amount shall be restricted (2% of the total contract value) by BHEL at the time of evaluation and ordering.</p>
7.5	For Installation Services – Erection and Commissioning - excluding Civil works and Site Fabricated Structural Works Portion:
7.5.1	Eighty Percent (80%) of the Installation Services component of Contract Price (excluding Civil and Site Fabricated Structural works) shall be paid on pro-rata basis against progressive erection of the identified equipment on certification by the BHEL/Project Manager for the quantum of work completed and on certification by the BHEL/Project Manager's field quality assurance & surveillance representative for the successful completion of quality check points involved in the quantum of work.
7.5.2	10 % (Ten percent) of contract E&C price shall be paid against commissioning (no load) of the unit / set / system / package , as applicable will be released on pro-rata basis on submission of complete set of valid documents.
7.5.3	10 % (Ten percent) of contract E&C price along with taxes (as applicable) shall be released against (2.5% against each activity)

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	<ul style="list-style-type: none"> a. Successful Trial Operation of unit / set / system / package . b. Successful completion of the Performance Guarantee (PG)/ Demonstration Test at site of unit / set / system / package . c. Submission of all final documents as per Technical Specifications e.g. As-built drawings, O&M manual etc. as applicable and d. Liquidation of Punch Point and handing over of unit / set / system / package including common facilities, if any to end Customer.
7.5.4	If PG test is not applicable for the tendered package, payment against successful completion of PG test shall be payable against successful completion of Trial operation.
7.6	<p>For Payment terms for Training</p> <p>100% of amount for each training module shall be paid upon completion of the corresponding module on certification by the Owner/Customer/BHEL.</p> <p>The basis for the pro-rata payments for this shall be the Billing Break-up (BBU) to be finalised subsequently after award of Contract.</p>
7.7	<p>Note: -</p> <p>Engineering design, if applicable is defined as separate line item in NIT BOQ, same shall not be more than 5% of main supply (excluding freight and GST) failing which breakup shall be adjusted accordingly from supply price for ordering.</p> <p>Payment terms and credit period for claiming PVC amount on main supply, E&C, Civil & Structural, if applicable will be same as that of respective payment terms as listed under 7.1, 7.2, 7.3 above.</p> <p>Payments released to the seller/ contractor against Bank Guarantee or any other provision as per the terms & conditions shall not in any way dilute the responsibility of the seller/ Contractor from the contractual obligations for completion of work including all tests/ guarantee test etc. The seller/ contractor shall be responsible for completion of work as per the tender specifications and terms & conditions.</p> <p>No interest, whatsoever, shall be payable by the Purchaser / BHEL to the bidder / seller/ contractor on any earnest money or on the Bank Guarantee or security deposit submitted or on any delayed payment by BHEL to the bidder / seller/ contractor or on any amount due to the bidder/ contractor.</p> <p>TDS shall be as per Indian IT act/GST ACT & relevant statutes.</p> <p>Common Notes:</p> <ul style="list-style-type: none"> i. if the documents are routed through Bank, then all bank charges will be to vendor's account. ii. In general, seller/contractors are required to issue Tax Invoice inclusive of PVC value (if applicable) wherever indices are available. In case PVC indices not available, vendors to submit PVC invoices on availability of applicable indices. However, Seller/contractor shall ensure to submit PVC

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	<p>calculations on quarterly for the shipments made during the previous quarter for buyer's clearance and acceptance before making PVC claim.</p> <p>iii. Any negative PVC, if not adjusted in earlier payments, will be adjusted. from the bills available with BHEL or future bills.</p>
7.8	DOCUMENTS TO BE SUBMITTED BY VENDOR
7.8.1	<p>Payment Under main supply, against dispatch of materials:</p> <ol style="list-style-type: none"> Invoice LR / Courier receipt / RR (indicating Invoice No., no. of boxes, PTL (if applicable) etc.) (For indigenous supplies) Packing List: Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately Duty drawback (if applicable) documents: As per applicable law E-way bill as may be applicable.
7.8.2	<p>Payment Under main supply, against receipt of materials at site:</p> <ol style="list-style-type: none"> Invoice Bill of Entry
7.8.3	<p>For claiming MRC Payment:</p> <ol style="list-style-type: none"> Commercial Invoice Material Receipt Certificate-MRC (copy), duly signed by BHEL / Customer.
7.8.4	<p>FOR CLAIMING ERECTION & COMMISSIONING, CIVIL & STRUCTURAL PAYMENT:</p> <p>Along with GST invoice, Running Account Bill (RAB) & Measurement Book (MB), in BHEL format, following additional documents need to be submitted:</p> <ol style="list-style-type: none"> Proof of wages paid (up to previous RAB / Invoice). Monthly EPF remittance challan (if applicable). Up to previous RAB / Invoice) Monthly ESI remittance challan Up to previous month)/ W.C. Insurance Policy, Valid Labor License (if applicable). Any other document as informed by BHEL. Bank Guarantee, if applicable as per Notes of payment terms. <p>FOR CLAIMING PAYMENT AGAINST COMMISSIONING (NO LOAD), TRIAL OPERATION, PG/ DEMONSTRATION TEST(S) AT SITE, HANDING OVER:</p> <ol style="list-style-type: none"> GST invoice Certification for completion of activity as per payment terms from BHEL/Customer. HR compliances, store NOC and any other documents, as per checklist, if any issued by REGION/ISG during detailed LOA or execution of the

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	contract, Compliance of these is required before 1st retention payment release.
7.8.5	FOR CLAIMING PVC AMOUNT: <ul style="list-style-type: none"> i. GST compliant invoice ii. PVC calculation duly approved by BHEL iii. All documents in support of PVC calculation
7.9	PRICE VARIATION CLAUSE: - PVC shall be applicable for Supply & E&C portions, Civil and Structural Package as per Appendix-2 (PVC) and in line with the NIT, amendment's clarifications there off, if there is delay beyond original overall completion schedule not attributable to vendor. Any and all the other commercial terms and conditions shall be in line with the GCC Commercial Terms and Conditions attached along with this document.
7.10	NON-PAYMENT OF INTEREST Notwithstanding anything to the contrary contained in any other document comprising the contract, no interest shall be payable to the Seller/Contractor on any money or balances including but not limited to the security amount, bank guarantee amount, EMD, retention money, any bills or any amount withheld which may become due owing to difference or misunderstanding or any dispute between the BHEL and the Contractor, or any delay on the part of BHEL in making periodical or final payment or any other aspects incidental thereto.
7.11	BILLING BREAK UP (BBU) The basis for the pro-rata payments above shall be the Billing Break-up (BBU) to be finalized subsequently after award of Contract. The Contractor shall prepare and submit to BHEL for approval with 7 days from the date of LOI, a break-up of the Contract Price in the currencies of the Contract in line with Annexure 19. The aggregate sum of the Contractor's price break-up shall be equal to the Total Contract Price. The break-up thus submitted shall be approved by BHEL. <ul style="list-style-type: none"> a) Bidders are advised to price their bids in such a manner that Installation Price Component of the bid price (excluding Civil/Structural works price) should not be less than 18% of the cumulative total Ex-works Price of Main Equipment. <p>In case the Installation Price is below the minimum percentage specified above, the amount by which it is lower shall be retained proportionately from Ex-Works component of Contract price while releasing payments due on receipt of equipment, and no interest shall be payable on the</p>

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	<p>retained amount. The aforesaid retained amount shall be paid on pro-rata basis upon completion of installation of the respective equipment and its certification by the Project Manager.</p> <p>b) Bidders are advised to price their bids in such a manner that the Civil Works Price Component of the bid price (including Site Fabricated Structural works price) should not be less than 20% of the cumulative total Ex-works Price of Main Equipment.</p> <p>In case the Civil Works Price (including Site Fabricated Structural works price) is below the minimum percentage specified above, the amount by which it is lower shall be retained proportionately from Ex- Works component of Contract price while releasing payments due on dispatch of equipment, and no interest shall be payable on the retained amount. The aforesaid retained amount shall be paid on pro-rata basis upon completion of Civil Works including Structural works (if any) corresponding to the respective equipment and its certification by the Project Manager.</p> <p>The price break-up shall be interlinked with the agreed detailed PERT Network of the Contract, setting forth starting and completion dates for the various key phases of the Facilities and the submitted Break-up of the Contract Price for Main Equipment supplies shall contain the date of dispatch necessarily.</p> <p>The Contractor shall, by the 10th April of every year, furnish the BBU value of supplies sourced from Micro and Small Enterprises (MSEs) along with the total BBU value of supplies dispatched by it during the preceding financial year as per the format enclosed as Annexure-21.</p> <p>The unit / set / system / package for the purpose of the payment under sl.no. 7.1 to 7.8 shall be either as per price format or mutually agreed during approval of billing schedule. Further, the purchaser reserves the right to withhold any amount for the agreed scope of work, not completed/ partially completed/ pending punch points etc. Decision of the Purchaser in this regard shall be final and binding on the seller/ contractor.</p> <p>The Billing Break Up shall be generally on item rate basis. However, for the items which are generally supplied and billed on weight (tonnage) basis, the Billing Break-Up may be considered on weight (tonnage) basis.</p>
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	<p>Any payment under the Contract, subsequent to Advance payment, shall be made only after the Contractor's price break-up is approved by the BHEL.</p> <p>Further, the BHEL reserves the right to withhold any amount for the agreed scope of work, not completed/ partially completed/ pending punch points etc. Decision of the BHEL in this regard shall be final and binding on the seller/ contractor.</p>
7.13.1	Retention amount: Retention Amount shall be 5% of contract value and shall be furnished before the first RA Bill becomes due for payment.
7.13.2	<p>The Retention amount of 5% of the contract value may be accepted in the following forms:</p> <ol style="list-style-type: none"> i. Cash (as permissible under the extant Income Tax Act). ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL. iii. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Consultant furnishing the security and duly endorsed/ hypothecated / pledged, as applicable, in favour of BHEL). iv. Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act and in line with GCC. The Bank Guarantee format for Retention Amount shall be in the prescribed formats. The validity of BG shall be initially for the contract period & shall be extended up to acceptance of final bill if the final bill is not settled during the contract period. v. Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Consultant, a/c BHEL). vi. Insurance Surety Bonds.
7.13.3	On successful bidder's request, the Retention Amount can also be recovered at the rate of 10% of the gross amount, progressively, from each of the running bills of the Consultant till the total amount of the required retention amount is collected.
7.13.4	Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.
7.13.5	<u>Refund of Retention Amount shall be as follows:</u>

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	Retention amount shall be released after successful completion of supply and along with last RA Bill. Retention amount shall be released after deduction all expenses/ other amounts due to BHEL under the contract/ other contracts entered into with them (Consultant) by BHEL.
7.14.1	<p>Amount linked to Safety Aspects/ compliance to Safety Rules:</p> <p>Amount linked to Safety Aspects/ compliance to Safety Rules' should be equal to 1 % of the cumulative total of Service Portion of the Contract, i.e. Civil + Installation/ Erection + Structural Works.</p> <p>The amounts linked to Safety Aspects / Compliance to Safety Rules including aforesaid retained amount shall be payable in part or full based on safety compliance duly certified by Project Manager and Safety-in-charge on quarterly basis.</p> <p>A.10% amount (calculated as 0.1 Y of the service portion amount of RA bill) shall be linked to Fatal/Major Accidents, and</p> <p>B.90% amount (calculated as 0.9 Y of the service portion amount of RA bill) shall be linked to various Safety Aspects specified in HSE Plan for Site operation by Contractor.</p> <p>While raising each RA Bill, Contractor shall claim Amount linked to Safety Aspects/ Compliance to Safety in such a manner that amount claimed is equal to Y% of the service portion (i.e. Civil/ Installation/ Erection/Structural Works etc.) of RA Bill.</p> <p>Where</p> <p>Y= 1% of Total Amount for Construction/service portion of the contract i.e. Civil Installation/Erection, Structural Works etc.)</p>
7.14.2	The amount as elaborated at para-A shall be withheld from first and second monthly RA bill of the respective quarter/three-month period and shall be released in part or full based on safety compliance duly certified by Project Manager and Safety-in-charge on quarterly basis. The amount for the entire quarter (i.e. RA bills raised during a 3-month period) shall be paid to the Contractors at the end of that three months' period along with 3rd/last RA Bill for the quarter/three months' period upon complying the following conditions:
7.14.3	<p>Amount of RA bill linked to FATAL/ Major Accidents (0.1 Y of the service portion amount of RA bill as mentioned above)</p> <p>a) No fatal injury or accident-causing death in that three months' period.</p> <p style="text-align: center;">And</p> <p>b) No Major injury or accident causing 25% or more permanent disablement to workmen or employees in that three-month period. Permanent disablement shall have the same meaning as indicated in The</p>

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	<p style="text-align: center;">Workmen's Compensation Act' 1923.</p> <p>In case of any fatal injury or accident as elaborated above occurs during that three-month period, the stipulated amount (0.1Y) subject to minimum of Rs 10 Lakh per fatality shall be forfeited and shall not be payable to the contractor under the contract. In case, the amount to be deducted/forfeited exceeds the amount linked to Fatal/ Major Accidents, the same shall be recovered from remaining Amount (0.9Y) linked to Compliance of Safety Rules and/or any other payments immediately due to the contractor under the Contract.</p> <p>In case of any Major injury or accident causing 25% or more permanent disablement to workmen/worker or employees occurs during that three-month period, Rs 4 lakh per Major injury shall be deducted from the amount (0.1Y) linked to Fatal/ Major Accidents and shall not be payable to the Contractor under the contract. In case, the amount to be deducted/forfeited exceeds the amount linked to Fatal/ Major Accidents, the same shall be recovered from remaining Amount (0.9Y) linked to Compliance of Safety Rules and/or any other payments immediately due to the Contractor under the Contract.</p> <p>Further, in case, Contractor doesn't raise RA Bills in any three-month period/quarter and if any fatal injury and/or major accident takes place in that period, Construction Manager shall deduct the amount [Rs 10 Lakh per fatality and Rs 4 lakh per Major injury] pertaining to this particular quarter from his next RA bill/due payment. In case, the amount to be deducted/forfeited exceeds the amount linked to Safety, the same shall be recovered from any other payments immediately due to the contractor under the Contract.</p> <p>The amount deducted/forfeited as mentioned above shall be in addition to the compensation payable to the workmen / employees under the relevant provisions of the Workmen's Compensation Act' 1923 and rules framed there under or any other applicable laws as applicable from time to time.</p>
7.14.4	<p>Amount of RA Bill linked to Compliance of Safety Rules (0.9Y i.e. 90% of amount as elaborated as mention at clause).</p> <p>Aforesaid amount (on quarterly basis) shall be payable to Contractor in five equal parts under five heads as under:</p> <p>(i) Amount payable on deployment of required Safety Personnel</p> <p>One fifth of the amount specified at clause 7.14.1.B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that required number of Safety personnel as per HSE ORGANIZATION have been deployed. The aforesaid amount linked to deployment of requisite safety personnel shall be paid as under:</p> <p>a) 50% of the amount referred in 7.14.04 (i), for deployment of Safety Supervisors shall be paid on pro-rata basis depending upon the actual no. of Safety Supervisors deployed vis-à-vis actual requirement:</p>

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	<p>(Amount to be paid= 0.09Y x Service portion of RA bill amount x (a/b)</p> <p>Where 'a' is actual no. of Safety supervisors deployed.</p> <p style="text-align: center;">And</p> <p>'b' is required no. of Safety supervisors as per HSE Plan for site operation by contractor.</p> <p>In case, actual no. of Safety supervisors deployed is more than requisite number (i.e. a/b is more than 1), the amount to be paid shall be restricted to 0.09Y.</p> <p>b) 50% of the amount referred in clause 7.14.04 (i), for deployment of Safety Officers shall be paid on pro-rata basis depending upon the actual no. of Safety Officers deployed vis-à-vis actual requirement:</p> <p>(Amount to be paid) = 0.09Y x Service portion of RA bill amount x (a/b)</p> <p>Where 'a' is actual no. of Safety Officers deployed</p> <p style="text-align: center;">And</p> <p>'b' is required no. of Safety Officers as per HSE plan for site operation by contractor. In case, actual no. of Safety Officers deployed is more than requisite number (i.e. a/b is more than 1), the amount to be paid shall be restricted to 0.09Y.</p> <p>a) In case aforesaid requisite no. of Safety personnel are not deployed by contractor, amount not to be paid as calculated above for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.</p> <p>(ii) Amount payable on providing requisite Personal Protective Equipment & Safety Equipment</p> <p>One fifth of the amount specified at Clause 7.14.1.B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of Personal Protective Equipment.</p> <p>In case of non-compliance by contractor, warning letter/Noncompliance shall be issued by Construction Manager /Safety Officer of BHEL. Further, if more than two such warning</p> <p>letters/Non-Compliance Memos are issued in a quarter/three monthly period, above mentioned amount for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.'</p> <p>Note: - The agency should ensure sufficient inventory of personal protective equipment (PPEs) prior to initial mobilization. After identifying the need of the required PPEs for various activities performed at the site, an additional inventory of approx. 20% of required PPEs should be maintaining during the execution of the work. If sub agency fails to provide the PPEs to worker the same may be issued by BHEL and cost for the PPEs</p>
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	<p>will be recovered from the contractor from regular RA Bill with 30 % overhead charges.</p> <p>(iii) Amount payable on providing requisite Safety Induction and Training One fifth of the amount specified at Clause 7.14.1 B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of imparting Safety training as per Clause 9.0 (HSE Training & Awareness) to at least 90% of its employees/workmen (who have not been previously provided with requisite training) in a quarter/ three months' period. In case contractor fails in meeting the aforesaid requirement, above mentioned amount for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.</p> <p>(iv) Amount payable on providing requisite Medical and First Aid Amenities One fifth of the amount specified at clause 7.14.1 B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of Medical Facilities & First Aid Amenities. In case contractor fails to provide Medical Facilities and First aid amenities as per requirement even on one incidence in any quarter/three-month period, above mentioned amount for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.</p> <p>(v) Amount payable on compliance to Work Permit System One fifth of the amount specified at Clause 7.14.1 B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of Work Permit System). In case of non-compliance by contractor, warning letters/Non-Compliance Memos shall be issued by Construction Manager/ Safety Officer of BHEL. In case of issuance of more than two such warning letters/Non-Compliance Memos in a quarter/three monthly period, above mentioned amount for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.</p>
7.15.1	<p>Secured Recoverable Advances: Interest Free Secured Mobilization Advance. will be payable under exceptional circumstances on certification of BHEL Construction Manager at Site.</p> <p>5% of Interest Free Mobilization Advance shall be applicable only on Total Civil + Installation/ Erection + Structural Works in line with the Approved BBU.</p>

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	<p>A) For Establishment of Site Office and Posting of Site Manager and team consisting of Construction/Erection Engineers, Quality Engineer, Safety Engineer etc. as required in Site Office – 1.0%.</p> <p>B) For Start of Civil Works at Site including the Mobilization of the Required T & P as required for execution of the Civil Works at site - 2 %.</p> <p>C) For Start of Structural Fabrication Works including the Establishment of Site Facilities, Deployment of T & Ps as required– 2 %.</p> <p>The Requirements of T&Ps for the start of works defined (C) shall be in line with the Project Requirement and as certified by the project manager of BHEL.</p> <p>Note: -</p> <ol style="list-style-type: none"> 1. BHEL Site-CM shall be the deciding authority for assessing the admissibility of advance payment to contractor. 2. In case contractor do not fulfil the agreed conditions of payment of earlier mobilization advance, BHEL Construction Manager will have the authority to not allow the subsequent mobilization advance to contractor.
7.16.1	<p><u>Price Bid</u></p> <p>a) Price Basis for supply (plant and equipment including spares): Ex-works Basis, inclusive of type test, packing & forwarding charges including sea-worthy packing (wherever applicable), all taxes & duties, levies etc., except Goods & Service Tax (GST). All import implications including but not limited to Basic Customs Duty, Education cess, antidumping duty, safeguard duty etc. applicable for imported items shall be included in the ex-works price of plant and equipment including spares.</p> <p>b) Ownership of the Plant and Equipment (including spare parts) to be supplied shall be transferred to the Purchaser when the Plant and Equipment (including spares) are loaded on to the mode of transport to be used to convey the Plant and Equipment (including spares) from the works to the site.</p> <p>c) Transportation of goods up to Destination shall be arranged by vendor on behalf of BHEL.</p> <p>d) Price Basis for E&C and other Services: Basic price basis inclusive of all taxes & duties, levies etc., except Goods & Service Tax (GST).</p>

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Chapter - VIII: Liquidated Damages

8.0	<p>LIQUIDATED DAMAGES/PENALTY</p> <p>Timely dispatch/delivery and completion of other schedules as stipulated in Order/Contract shall be the essence of Order/Contract. If the Seller/Contractor fails to complete the dispatch/delivery and other schedules within the time period stipulated in Order/Contract, or within any extension of time granted by BHEL, it shall be lawful for purchaser to recover damages for breach of Order/Contract and hereunder.</p>
8.1	<p>LIQUIDATED DAMAGES</p>
8.1.1	<p>LD for Completion of Facilities:</p> <p>One half of one percent (1/2%) of contract value, for each week of delay in successful Completion of Facilities of the Unit as per the scope of work of the Contractor.</p>
8.1.2	<p>The total amount of Liquidated Damages for delay under the contracts will be subject to a maximum of 7.5 % of the total contract price.</p>
8.2	<p>LIQUIDATED DAMAGES/PENALTIES FOR SHORTFALL IN GUARANTEED PERFORMANCE PARAMETERS:</p>
8.2.1	<p>In case the results of the performance Guarantee tests as stipulated in the specifications show that the equipment have failed to meet the guaranteed performance requirements, the seller/ contractor shall carry out the modification, if necessary within 90 days of such tests. If the equipment fails to meet the guaranteed parameters at the end of above specified period of 90 days purchaser may at his discretion reject the equipment or accept after assessing the liquidated damages to be payable by the seller/contractor.</p>
8.2.2	<p>Alternatively, in case the seller/ contractor does not fulfil the guaranteed parameters, BHEL may undertake to rectify the system/ equipment and expenditure incurred along with any other incidentals shall be recovered from the seller/ contractor. In case of un-remedied any excess consumption of Auxiliary Power consumptions and shortfall of other guarantee parameters for the ordered package as agreed by the seller/contractor in the contract, the seller/contractor shall be liable to pay BHEL by way of LD/Penalty for performance shortfall as stipulated in End User Document NIT document no. CS- 8003-001-2, TECHNICAL SPECIFICATIONS SECTION – VI, PART-A SUB-SECTION-IV FUNCTIONALGUARANTEES and its amendments, Clarifications etc. If any applicable for this contract.</p>
8.2.3	<p>Maximum LD on account of short fall of guaranteed performance parameters as per cl.no.8.5.2 shall be in line with the End User Document NIT document no. CS-8003-001-2, TECHNICAL SPECIFICATIONS SECTION – VI, PART-A SUB-SECTION-IV FUNCTIONALGUARANTEES and its amendments, Clarifications etc. If any applicable for this contract.</p>

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Chapter - IX: SPARES

9.0	START-UP COMMISSIONING, OPERATION AND MAINTENANCE SPARES.: Bidder's scope shall include supply and handing over of Spares of all equipment as mentioned in NTPC NIT Specification and start-up & Commissioning spares. Special and separate packing & box-marking for items meant for spares including tools and tackles which are to be handed over directly to customer, is required.
9.1	MANDATORY SPARES: Not Applicable for this contract.
9.2	COMMISSIONING SPARES Startup and commissioning spares as required for the completion and commissioning of AHP are to be dispatched to the site prior to the requirement of commissioning of equipment/system(s).
9.3	WORK INSTRUCTIONS FOR STORAGE & HANDING OVER OF SPARES
9.3.1	All spares supplied under this contract shall be strictly interchange-able with the parts for which they are intended to replace. The spares shall be treated and packed for long storage under the climatic conditions prevailing at the site, e.g. small items shall be packed in sealed transparent plastic bags with desiccators' packs as necessary.
9.3.2	Each spare part shall be clearly marked or labeled on the outside of the packing with the description. When more than one spare part is packed in a single case, a general description of the contents shall be shown on the outside and a detailed list enclosed. All cases, containers and other packages must be suitably marked and numbered for the purpose of identification.
9.3.3	All cases, containers or other package are liable to be opened for examination as may be considered necessary by the Engineer.
9.3.4	All recommended spares AS APPLICABLE shall be delivered to site at least two months before the scheduled date of the trial operation of the plant. However, they shall not be dispatched before the dispatch of the associated main equipment.
9.3.5	The Vendor will provide all the addresses and particulars of his sub suppliers while placing the order on vendors for items/components/equipments covered under the contract and will further ensure with his vendors that BHEL/ end user, if so desires, will have the right to place order for spares directly on them on mutually agreed terms based on offers of such vendors.
9.4	INTER-CHANGEABILITY AND CHANGES (Applicable for spares and replacements) All similar components or parts of similar equipment supplied by Seller/ Contractor shall be interchangeable with one another. Even though all the work and materials necessary for satisfactory completion of the works may not be detailed in the specifications and schedules, the cost will be considered to be within the contract price and no extra charges shall be payable. However, if there are substantial changes in the specifications of the

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Chapter - IX: SPARES

	plant/ equipment/ stores, consequential changes in prices shall be mutually agreed between Purchaser and Seller/ Contractor.
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Chapter - X: DOCUMENTS / INFORMATION TO BE FURNISHED WITH TECHNICAL OFFER

10	DOCUMENTS / INFORMATION TO BE FURNISHED ALONGWITH TECHNICAL OFFER:
10.1	Bidder shall submit the signed and stamped copy of all the pages which constitutes this technical enquiry specification signed by authorized signatory and clearly mentioning each clause.
10.2	<p>Bidder shall furnish the following details in their technical offer:</p> <ol style="list-style-type: none"> 1 Bidder to furnish the type of system offered (vacuum/pressure...etc) along with the offer. The type of system offered cannot be changed during detailed engineering. 2 Electrical Load list/Feeder list with type/rating/power requirement. 3 Consumed power values and motor ratings of all the equipment. 4 Confirmation of scope in line with Tender. 5 Un-priced price schedule for supply & services work mentioning "Quoted" against each item in BHEL 6 Price format.
10.3	<p>Bidder shall furnish the following details after placement of LOI.</p> <ol style="list-style-type: none"> 1 List of Self Manufacturing Items with indicating manufacturing place and Bought Out items 2 Eligibility and Conformity of the facilities 3 Sub Vendor proposed list by Bidder and Sub-vendors Qualification details with documentary proof 4 List of Mechanical, Electrical, C&I, Civil and Structural items/equipment for Ash Handling System package for loading/unloading and storage.
10.2	Consumed power values and motor ratings of all the equipment.
10.3	Un-priced price schedule for supply & erection work mentioning "Quoted" against each item in BHEL price format.
10.4	Electrical Load list/Feeder list with type/rating/power requirement.

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Chapter - XI: Material Handling, Transportation and Storage

11.1	PACKING
11.1.1	Packing shall be in conformity with specifications and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.
11.1.2	In case of shipment by sea, the packing shall be sea-worthy and of international standards.
11.1.3	<p>Packing List shall be submitted as per standard format along with advance set of documents for claiming payment which must indicate:</p> <ul style="list-style-type: none"> i. No. of boxes ii. Packing size. iii. Gross weight and net weight of each package. iv. Contents of the package with cross reference to BoM item code no. or item serial no. v. Quantity of each item separately. <p>The Packing list must cover all the BoM items and supplier to give the following undertaking in the</p> <p>Packing List: The Packing List provided herewith is as per the BoM approved under PO No.-.....dated-</p>
11.2	<p>PACKING FOR SPARES</p> <p>Different types of spares i.e. start-up/ commissioning spares and initial spares (recommended O&M spares) are to be packed separately. Recommended Spares shall not be packed with main equipment but shall be packed separately.</p> <p>Packing of Recommended spares should have a Red color band all around the container / package and words RECOMMENDED SPARES written in red color. Project, Package description, BHEL's PO No. and date s also be clearly mentioned on the box. One copy of laminated packing slip shall be placed inside the container and one copy shall be pasted on the cover of the container.</p>
11.3	COLOUR CODING OF TAGS/ MARKING/ STICKERS
11.3.1	Aluminum stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc.
11.3.2	<p>Tags should be of the color as mentioned below:</p> <p>Main equipment: Yellow or White tag</p> <p>Start-up/ Commissioning spares: Blue tag</p> <p>O&M spares: Green tag</p>

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11.3.3	Similar color scheme to be followed wherever stickers are pasted on components.
11.4	STORAGE INSTRUCTIONS Successful tenderer shall be required to submit detailed instructions for storage of supplies within three months of date of issue of LOI /LOA/ Order/ Contract. In case storage instruction available in technical specification of the tender, same shall be followed by the vendors.
11.5	MATERIAL RECEIPT CERTIFICATE Seller/ Contractor shall arrange Material Receipt Certificate from the project site, duly signed by Purchaser/ Owner Site Engineer after receipt & physical verification of the material at site.
11.5	CONSIGNEE'S RIGHT OF REJECTION
11.5.1	Notwithstanding any approval of Purchaser or Engineer in respect of plant/ equipment/ stores or materials or other particulars or work or workmanship involved in performance of order/ contract (with or without any test carried out by Seller/ Contractor or Inspection Agency or under direction of Contract Engineer), and notwithstanding delivery of the plant/ equipment/ stores where so provided to the consignee, it shall be lawful for the consignee, on behalf of the Purchaser, to reject the plant/ equipment/ stores or any part/ portion of consignment thereof, within 60 days after actual delivery at the stipulated place or destination, if such plant/ equipment/ stores or part/ portion of consignment thereof is not in conformity with terms and conditions of order/ contract whether on account of any loss, storage, deterioration or damage before dispatch or otherwise, whatsoever.
11.5.2	Rejected goods or materials shall be removed by Seller/ Contractor within a period of 30 days from the date of receipt of notice of such rejection. The expenses to be incurred in respect thereof shall be borne entirely by the Seller/ Contractor.
11.6	RISK IN STORES Seller/ Contractor shall perform the order/ contract in all respects in accordance with terms and conditions thereof. Stores and every constituent part thereof, whether in possession or control of the Seller/ Contractor, his agents or servants, or a carrier, or in joint possession of Seller/ Contractor, his agent or servants and BHEL, his agents or servants, shall remain in every respect at the risk of Seller/ Contractor until their actual delivery to consignee at the stipulated place or destination or where so provided in acceptance of offer, until their delivery to a person specified by BHEL as interim consignee for the purpose of dispatch to the consignee. Seller/ Contractor shall be solely responsible for all losses, destructions, damages or deterioration to the plant/ equipment/ stores from any cause whatsoever, while the plant/ equipment/ stores await dispatch after approval by the Inspection Agency.

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11.7	<p>SHORTAGES / DAMAGES</p> <p>Any shortages or damages during unloading, storage and handling at site, including at the time of erection and commissioning, shall be made good by the Seller/ Contractor at his risk and cost, to meet the project schedule. In case of faults/ discrepancies in any material, component, sub-assembly, assembly, etc., the same shall be supplied/ replenished free of cost to enable the equipment to be put to service.</p>
11.8	<p>PHYTOSANITARY CERTIFICATE:</p> <ol style="list-style-type: none"> i. As per the Indian Law, all consignments being imported into India by air/sea require a phytosanitary certificate from the country of origin-if articles have been packed with wooden packaging materials. This is mandatory. Please confirm in your offer/dispatch documents that the required phytosanitary certificate will be submitted. ii. Packaging material means any kind of material of plant origin used for packing which include, hay, straw wood shavings, wood chips, saw dust, wood waste, wooden pallets, dunnage mats, wooden packages, coir pith, peat or sphagnum moss etc.
11.9	<p>DISPATCH MARKINGS</p> <p>Each package/ Drum delivered under the Contract shall be marked by Supplier as per details listed below and such marking must be distinct and in English language.</p> <ol style="list-style-type: none"> i. Name and address of the consignee (to be intimated at the time of dispatch clearance) ii. Dispatched by: (Vendor name) iii. LR No. Package No./ Total Package No eg: 1 of N, 2 of N; where N=Total no of packages in a particular consignment. iv. Type of Supply: "Main equipment supply"/"Commissioning Spares" as the case may be. <p>Besides above necessary, packing shall bear a special marking "TOP", "BOTTOM", "DO NOT TURN OVER", "KEEP DRY", "HANDLE WITH CARE", etc.</p> <ol style="list-style-type: none"> v. Compliance to Material Tracking System and Consignment Tracking System as per the SPMS guidelines. <p>No item / equipment shall be dispatched without obtaining Material Dispatch clearance certificate from from BHEL irrespective of inspection categories.</p> <p>The Contractor shall ensure that all the plant and equipment are suitably packed and protected to prevent damage or deterioration during its transportation to site, handling and storage at site till the time of its installation. The ownership of all such packing material shall stand transferred to the Purchaser/ Employer upon dispatch of the plant and equipment.</p>
11.10	<p>E-Way Bill</p>

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	<p>E-Way bill is to be generated by the bidder/ bidder's sub-vendor for transport of materials to the Project site, same shall be arranged by the bidder.</p> <p>The Seller/ Contractor shall be responsible for the issuance of e-way bill and other compliances relating to e-way bill as per GST law.</p>
11.11	<p>Disposal of Surplus Material</p> <p>"Ownership of any Plant and Equipment in excess of the requirements for the Facilities (i.e. surplus material) shall revert to the Contractor upon Completion of the Facilities and Guarantee Test or at such earlier time when the Owner/End-User/End user's consultant/BHEL and the Contractor agree that the Plant and Equipment in question are no longer required for the Facilities, provided quantity of any Plant and Equipment specifically stipulated in the Contract shall be the property of the Owner whether or not incorporated in the Facilities. The Contractor shall remove from the site such surplus material brought by him in pursuance of the Contract, subject to the Contractor producing the necessary clearance from the relevant authorities (Customs, GST etc.), if required by law, in respect of re-export or disposal of the surplus material locally. The liability for the payment of the applicable taxes/duties, if any, on the surplus material so re-exported and/or disposed locally shall be that of the Contractor.</p> <p>The Contractor shall also indemnify to keep the Owner/End-User/BHEL harmless from any act of omission or negligence on the part of the Contractor in following the statutory requirements with regard to removal/disposal of surplus material. The Indemnity-cum-Undertaking Agreement shall be furnished by contractor. Further, in case the laws require the Employer to take prior permission of the relevant Authorities before handing over the surplus material to the Contractor, the same shall be obtained by the Contractor on behalf of the OWNER/BHEL.</p>

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Chapter - XII: Exclusions

12.0	EXCLUSIONS: Following equipment/items and systems are excluded from bidder's scope w.r.t. NIT specifications, MOMs, amendments and clarifications (as per enclosures as floated along with this enquiry):
12.1	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.
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.

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Chapter - XIII: Terminal Points

13.0	TERMINAL POINTS: The Terminal Points of Ash Handling Plant are as follows: Bidder to read the Below Terminal Points in conjunction with Annexure-4 and 5 (Latest Plot Plan & Flow Diagram)
13.1	STARTING
13.1.1	Boiler seal plate.
13.1.2	Eco, Eco Outlet Duct, AH-ESP Duct, APH, ESP Hopper's outlet flange.
13.1.3	INPUT WATER 1) Service water: - i. Near Bottom ash slurry transportation Pump house area* . Subsequent isolation valve, valves (valve station), piping & instrumentation for further distribution including for Ash Water Pump House, Combined Ash Slurry Pump House, intermediate silo, Dewatering bin & AHP MCC buildings (Near Ash Water Tank) etc. shall be provided by the bidder. ii. Near AHP Compressor House (Conveying Air & Transport Air Compressor House) * . Subsequent isolation valve, valves (valve station), piping & instrumentation for further distribution including for AHP MCC building near Conveying Air & Transport Air Compressor house, & Classifier Silos area etc. shall be provided by the bidder. iii. Near AHP silo utility Building* . Subsequent isolation valve, valves (valve station), piping & instrumentation for further distribution including for AHP MCC building near silo utility building & Main Ash silos stage-III area shall be provided by the bidder. 2) DMCW water (Supply and Return): - Near AHP Compressor House (Conveying Air & Transport Air Compressor House) * . Subsequent isolation valve, valves (valve station), piping & instrumentation for further distribution including for fluid coupling of Ash Slurry Pumps & BA Overflow Pumps etc. by the bidder. 3) Raw Water/CTBD water: Near Ash water tank area* . Subsequent isolation valve, valves (valve station), piping & instrumentation for further distribution shall be provided by the bidder. 4) Potable water: - Near AHP Compressor house and Silo area* . Subsequent isolation valve, valves (valve station), piping & instrumentation for further distribution including for the following buildings (i) AHP MCC near Ash water Pump House (ii) AHP MCC near AHP compressor house (iii) AHP MCC near Silo Utility Building shall be provided by the bidder. *- (i) Terminal Point shall be Approx. 50 meters from the area mentioned above (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.

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	<p>(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.</p> <p>5) For AWRS (Recovery water from NTPC's pumping system at ash dyke outside plant boundary): To be taken up near plant boundary (approx. 5 meter inside plant boundary).</p>
13.2	ENDING
13.2.1	For Dry Fly Ash (ESP) - Outlet of ash conditioner, unloading spout & retractable chute below Fly ash silo and Fine Fly ash silo to Closed Bulker, Open truck and Rail wagon feeding.
13.2.2	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).
13.2.3	For Bottom & Coarse Ash (Boiler, Eco, Eco outlet duct, APH, AH-ESP Duct) – Outlet of discharge chute to truck feeding below dewatering bin.
13.2.4	For Dry Fly Ash (ESP)- Through Bagging system. Outlet of bagging conveyors to Bagging shed for storage, Retrieval of fly ash bags from Bagging shed to Trucks and direct loading of fly ash bags from bagging machine to the trucks.

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Chapter-XIV: Tools and Tackles

14.0	TOOLS AND TACKLES
14.1	One set of all special tools and tackles including testing, calibrating and measuring instruments required for erection, assembly, disassembly and maintenance & testing of all equipment/systems for the package shall be supplied by the Bidder. The Bidder shall not use these special tools, tackles and testing/measuring equipment for erection/commissioning purposes and shall be new and in an unused condition, when they are handed over to the Employer. A list of all such special tools and tackles shall be submitted along with the offer.
14.2	The bidder shall furnish a complete and new set of all tools and tackle which are necessary for erection, commissioning, maintenance and overhauling of any of the equipment/ system provided under this specification.
14.3	Tools shall be shipped in separate containers clearly marked with the name of equipment for which they are intended.
14.4	The bidder shall furnish an unpriced list of such tools and tackle included under the scope of supply with the technical part of proposal along with price break up for review of end user/Consultant.

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Chapter-XV: DRAWINGS AND DOCUMENTS SUBMISSION

15.0	DRAWINGS AND DOCUMENTS SUBMISSION
15.1	<p>Bidder shall furnish the contain Full Details and Drawings of the Equipment, Furnished Data Sheet, Technical, Testing Procedures and O & M manuals of the Equipment. Successful bidder must submit drawing/documents as per list of drawing provided in BHEL NIT/ End user's technical specification. Other drawings. /documents to be submitted by the successful bidder shall be finalized with end user (or their consultant) / BHEL after award of the contract and the bidder shall furnish the drawings. / docs accordingly. Engineering drawing/doc must essentially contain the following (individual to system, equipment and items of but not limited to these and any drawing/ doc required desired by BHEL/ end user shall be furnished by the vendor during detail engineering:</p> <ul style="list-style-type: none"> (a) General arrangements drawings. included in the scope as specified, the individual equipment's, associated accessories. (b) Civil assignment drawings with Load data for all above (c) Various schedules (d) Design calculations (e) GA, Data sheets, Type test reports (f) Fabrication drawings of chutes & technological structures of machines (g) Civil and Structural design, drawings including Fabrication, Erection drawings (h) O&M manuals and E&C manuals and procedures (i) PG test procedures, QAP, FQP (j) Other drawing/documents specified in end user's NIT specification (k) Cable Tray Layout, Earthing and Lightning Protection Layout
15.2	All drawings submitted shall indicate the type, size, arrangement, weight of each component, breakdown for packing and shipping, the external connections, fixing arrangements required, the dimensions required for installation with other equipment and material, clearances required between various portions of the equipment and any other information that is relevant or requested for.
15.3	Test certificates shall invariably consist of details such as Nameplate data, projects and BHEL& Customer's /Customer's consultant's name.
15.4	Records of test results / readings etc., made during internal testing shall be available during testing/ inspection in customer's presence.
15.5	All Flow diagrams, Equipment drawings, GA Drawings/Schemes shall be submitted with separate sheet indicating complete BOM. The same shall be reflected in BBU. BBU shall be furnished by the successful bidder after award of contract considering the BBU system-wise like Bottom Ash Removal system, Coarse ash removal system, Fly ash evacuation system, Ash slurry disposal system, Ash silo equipment, Ash classification system, Dewatering bin system, Bagging system, Ash water system etc.

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Chapter-XV: DRAWINGS AND DOCUMENTS SUBMISSION

	Also, BBU shall indicate the amount towards Hardware, gaskets and miscellaneous items.
15.6	Bidder shall submit Painting schedule for approval by customer and Painting for all equipment shall be as per approved painting schedule. All equipment shall be dispatched in painted condition.
15.7	All items/equipment except pipes, structural steel, ash vessels and refractory shall be despatched in transport- worthy and storage - worthy packing/shipment boxes. BBU No, Quantity, Item Description details shall be legibly marked on at least 2 sides of packing/shipment boxes. Loose items are not acceptable.
15.8	Successful bidder shall submit "Storage Instructions" for the storage (at site) for the entire equipment in bidder's scope of supply within 4 weeks from the date of LOI and the bidder shall ensure that the Shipment list/ Packing list and Storage Instructions are available at site before the items/equipment reach the site.
15.9	Successful bidder shall submit Field Quality Plan for Receipt & Storage within 4 weeks from the date of LOI.
15.10	3-D models compatible with PDMS software and IPMS software for the complete system and coordinating with BHEL other units for alignment will be in the scope of bidder. During detailed engineering bidders shall submit the same along with the GA/OGA drawings for approval.
15.11	All the plant layouts shall be made in computerised 3D modelling system. BHEL reserves the right to review the 3D model at different stages during the progress of engineering. The layout drawings submitted for review shall be fully dimensioned and extracted from 3D model after interference check.
15.12	3D modelling of complete AHP buildings, AHP pipe racks, AHP MCC Buildings shall be carried out by successful bidder. Along with GA/OGA drawings the 3D modelled drawings shall also be submitted for approval. All the facilities pertaining to Ash handling plant including pipe racks and cable racks shall be made in computerized 3D modelling system as detailed in NTPC specification. BHEL will furnish 2D/pdf drawing as an input for carrying out 3D model drawings. 3D drawing for AHP MCC buildings is also in bidders' scope.
15.13	During detail engineering, successful bidder(s) shall ensure flow of drawings/docs as mentioned below: <ul style="list-style-type: none"> i. All drawings/documents and its subsequent revisions shall be submitted to BHEL/end user/ end user's Consultant for their review/approval through Document Management System (DMS) like Wrench portal, etc.. ii. Bidder shall intimate about the drawings/ docs submission date to BHEL/end user/ end user's Consultant. iii. It shall be respective bidder's responsibility for obtaining time bound approval on all the engineering drawings and documents from BHEL/end

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Chapter-XV: DRAWINGS AND DOCUMENTS SUBMISSION

	<p>user / end user's Consultant and resolving the technical queries raised by BHEL/ end user.</p> <p>iv. In the event BHEL/end user/ end user's Consultant doesn't approve the drawings then the commented drawings/docs as received from BHEL end user/ end user's Consultant shall be sent to the vendor for revision.</p> <p>v. 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.</p> <p>vi. In case the drawings/docs are not found OK, then the same shall be again sent back to vendor for incorporation of comments/corrections and step i to v shall repeat till drawings/docs are found in order.</p> <p>The process as mentioned in point no. i to vi above shall follow till approval is received end user/ end user's Consultant.</p> <p>Note:</p> <p>The Bidder shall consult BHEL for any interface inputs required for the scope of work in this package. It shall be sole responsibility of Bidder for any re-work, modification arising out of any discrepancy/mismatch in any drawings or documents so as to obtain acceptance of end user/ end user's Consultant.</p>
15.14	<p>Other Drawing related information</p> <ul style="list-style-type: none"> • The number of copies/prints/CD-ROMs/manuals to be furnished for various types of document is as per NIT specification and as finalized by BHEL after placement of order. • List of drawings shall be furnished immediately after placing the order. • All drawing and data sheet are to be submitted in standard sheets having approved title blocks. Customer's, Customers' Consultant's and BHEL name has to be incorporated in all the drawings. • Drawing shall be complete. Incomplete drawing shall not be accepted. • All drawings submitted shall indicate the type, size, arrangement, weight of each component, breakdown for packing and shipping, the external connections, fixing arrangements required, the dimensions required for installation with other equipment and material, clearances required between various portions of the equipment and any other information that is relevant or requested for. • The drawings mentioned for approval are to be submitted for approval. If drawings are approved with comments, then the same shall be resubmitted after incorporating the comments. • Test certificates shall invariably consist of details such as Nameplate data, projects and BHEL& Customer's /Customer's consultant's name. • Test certificates shall be strictly in A4 size. • Records of test results / readings etc., made during internal testing shall be available during testing/ inspection in customer's presence.

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	<ul style="list-style-type: none"> • All drawings and test certificates etc., shall be marked as “CERTIFIED” and signed by the competent authority on the Bidder’s side. • Submission of O & M manuals, as built drawings/ doc. shall be in the Bidder’s scope. • Successful bidder has to submit AUTOCAD drawings along with pdf copies. • All Flow diagrams, Equipment drawings, GA Drawings/Schemes shall be submitted with separate sheet indicating complete BOM. The same shall be reflected in BBU. BBU shall be furnished by the successful bidder after award of contract considering the BBU system-wise like Bottom Ash Removal system, Coarse ash removal system, Fly ash evacuation system, Ash slurry disposal system, Ash silo equipment, Ash classification system, Dewatering bin system, Bagging system, Ash water system etc. Also, BBU shall indicate the amount towards Hardware, gaskets and miscellaneous items. • Bidder shall submit Painting schedule for approval by customer and Painting for all equipment shall be as per approved painting schedule. All equipment shall be dispatched in painted condition. • All items/equipment except pipes, structural steel, ash vessels and refractory shall be dispatched in transport- worthy and storage - worthy packing/shipment boxes. BBU No, Quantity, Item Description details shall be legibly marked on at least 2 sides of packing/shipment boxes. Loose items are not acceptable. • Successful bidder shall furnish the detailed packing /shipment box details with information such as packing box size, type of packing, weight of each consignment, sequence no. of dispatch, no. of consignment for each deliverable item against each billing break up units/ billable blocks. • Successful bidder shall submit “Storage Instructions” for the storage (at site) for the entire equipment in bidder’s scope of supply and the bidder shall ensure that the Shipment list/ Packing list and Storage Instructions are available at site before the items/equipment reach the site. • Successful bidder shall submit Field Quality Plan for Receipt & Storage within 4 weeks from the date of LOI. • Successful bidder shall submit Field Quality Plan for Erection & Commissioning within 8 weeks from the date of LOI. • Bidder shall furnish Erection and Commissioning manpower requirement, consumables, tools and tackles requirement for commissioning of the system. • All Manuals shall be supplied in proper bound books or in folders. <p>Approval of documents does not absolve the contractor from his contractual obligations</p>
15.15	Schedule & number of copies required for submission should be as per the details given below:

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Chapter-XV: DRAWINGS AND DOCUMENTS SUBMISSION

Sl. No	Description	Type of copies required	Number of copies required	Schedule of submission
1	Drawings / Documents for Approval	Soft Copies	-	Starting Two Weeks from LOI
2	Revised Drawings / Documents Incorporating end user Comments if any.	Soft Copies	-	One Week after receipt of comments from end user/consultant forwarded by BHEL
3	Final Approved Drawings / Data / Documents	Prints & Soft Copies	6 Copies	One Week after Receipt of Approved Drawing from BHEL / Consultant.
4	Erection Drawings & Manuals	Prints	6 Copies	Eight (8) Weeks before the Dispatch of the Equipment.
5	Pre-Commissioning / Commissioning Check List / Procedures.	Prints	6 copies	----- do -----
6	Quality Assurance Plan	Prints & Soft Copies	6 Copies	One Month from The Date of placing L.O.I
7	Final Operation & Maintenance Instruction Manuals	Prints & Soft Copies	One (1) Original & 6 Copies	One Month before the Dispatch of the Equipment.

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Chapter-XVI: Enclosures

16.0	ENCLOSURES																																																		
16.1	<p>Following enclosures are an integral part of this technical enquiry and must be signed and stamped and submitted along with the offer (enclosed in soft form in wrench website, link for downloading is given separately):</p> <table> <tr> <th>Annexure No</th><th>Description</th></tr> <tr> <td>Annexure - 1</td><td>Project Information</td></tr> <tr> <td>Annexure - 2</td><td>AHP Scope Matrix</td></tr> <tr> <td>Annexure - 3</td><td>Electrical and C&I scope Matrix</td></tr> <tr> <td>Annexure - 4</td><td>Plot Plan</td></tr> <tr> <td>Annexure - 5</td><td>NTPC Ash Flow Diagram</td></tr> <tr> <td>Annexure - 6</td><td>NTPC NIT Specifications</td></tr> <tr> <td>Annexure - 7</td><td>Clarifications & Amendments</td></tr> <tr> <td>Annexure - 8</td><td>AHP Attachment-3K</td></tr> <tr> <td>Annexure - 9</td><td>BHEL Ash Data And Furnace Bottom Seal Plate assembly details</td></tr> <tr> <td>Annexure - 10</td><td>Letter of Support NTPC Format</td></tr> <tr> <td>Annexure - 11</td><td>HSE and PPE Manual</td></tr> <tr> <td>Annexure - 12</td><td>List of Do's and Don'ts for AHP</td></tr> <tr> <td>Annexure - 13</td><td>Guaranteed Power Consumption</td></tr> <tr> <td>Annexure - 14</td><td>Void</td></tr> <tr> <td>Annexure - 15</td><td>Indicative Sub Vendor List</td></tr> <tr> <td>Annexure - 16</td><td>Declaration of Site familiarization before bid submission</td></tr> <tr> <td>Annexure - 17</td><td>VOID</td></tr> <tr> <td>Annexure - 18</td><td>VOID</td></tr> <tr> <td>Annexure - 19</td><td>BBU Format and Price Schedule</td></tr> <tr> <td>Annexure - 20</td><td>Provenness Criteria Declaration Format</td></tr> <tr> <td>Annexure - 21</td><td>Performa for Supplies Sourced from MSE</td></tr> <tr> <td>Annexure - A</td><td>Standard Guidelines for Workers Accommodation</td></tr> <tr> <td>Annexure - B</td><td>Definitions</td></tr> <tr> <td>Appendix-2</td><td>PVC Formulas</td></tr> </table> <p>Note: Bidder shall download above documents and declaration shall be submitted to BHEL for confirming that bidder has gone through all technical specification, amendment & clarification of end user and BHEL along with list of annexures mentioned in technical enquiry specification issued with this tender.</p>	Annexure No	Description	Annexure - 1	Project Information	Annexure - 2	AHP Scope Matrix	Annexure - 3	Electrical and C&I scope Matrix	Annexure - 4	Plot Plan	Annexure - 5	NTPC Ash Flow Diagram	Annexure - 6	NTPC NIT Specifications	Annexure - 7	Clarifications & Amendments	Annexure - 8	AHP Attachment-3K	Annexure - 9	BHEL Ash Data And Furnace Bottom Seal Plate assembly details	Annexure - 10	Letter of Support NTPC Format	Annexure - 11	HSE and PPE Manual	Annexure - 12	List of Do's and Don'ts for AHP	Annexure - 13	Guaranteed Power Consumption	Annexure - 14	Void	Annexure - 15	Indicative Sub Vendor List	Annexure - 16	Declaration of Site familiarization before bid submission	Annexure - 17	VOID	Annexure - 18	VOID	Annexure - 19	BBU Format and Price Schedule	Annexure - 20	Provenness Criteria Declaration Format	Annexure - 21	Performa for Supplies Sourced from MSE	Annexure - A	Standard Guidelines for Workers Accommodation	Annexure - B	Definitions	Appendix-2	PVC Formulas
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Chapter-XVII: Taxes and Duties

17.0	TAXES & DUTIES
17.1	The contractor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit. However, provisions regarding GST on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.
17.2	GST (Goods and Services Tax)
17.2.1	GST as applicable on output supply (goods/services) are excluded from contractor's scope; therefore, contractor's price/rates shall be exclusive of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.
17.2.2	The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Contractor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Contractor.
17.2.3	Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.
17.2.4	Contractor has to submit GST registration certificate of the concerned state. Contractor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.
17.2.5	Contractor/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.
17.2.6	Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.
17.2.7	Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.
17.2.8	Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Contractor: - a. Supply of goods and/or services have been received by BHEL. b. Original Tax Invoice has been submitted to BHEL.

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Chapter-XVII: Taxes and Duties

	<ul style="list-style-type: none"> c. Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ LOI/LOA. d. In cases where e-invoicing provision is applicable, vendor/contractor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder. e. Contractor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return. f. Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the contractor. g. Contractor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.
17.2.9	Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/LOI/LOA at the time of submission of Tax invoice to BHEL, shall be deducted from contractor's bill or otherwise as deemed fit.
17.2.10	TDS as applicable under GST law shall be deducted from contractor's bill.
17.2.11	Contractor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permit, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.
17.2.12	Contractor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of contractor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.
17.2.13	In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Contactor's due payment.
17.2.14	Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Contactor.
17.2.15	In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the contractor.

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Chapter-XVII: Taxes and Duties

17.2.16	<p><u>Variation in Taxes & Duties:</u></p> <p>Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.</p> <p>In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contactor only and within the contractual delivery period only.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p>
17.3	<p><u>Income Tax:</u></p> <p>TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from contractor's bill.</p>
17.4	<p><u>Statutory Variation:</u></p> <p>Such duties, taxes, levies etc. which are not part of 4.1 above and is notified after the last date of submission of Bid and within the contractual schedule delivery including clear time extension without levy of LD, increase over the rate existing on the last date of submission of Bid, shall be reimbursed by the company on production of documentary evidence in support of payment actually made to the concerned authorities. Similarly, if there is any decrease in such duties, taxes and levies, the same shall become recoverable from the contractor. However, seller/ contractor shall obtain prior approval from BHEL before depositing new taxes & duties.</p> <p>Benefits and/ or abolition of all existing taxes must be passed on to BHEL, by the seller/ contractor, against new taxes & duties, if any, introduced at a later date. The benefits shall be passed on in terms of commensurate reduction in the basic price</p> <p>No other variations such as on Custom Duty, exchange rate, minimum wages, prices of controlled commodities, any other input etc. shall be payable by the purchaser unless specifically agreed upon.</p>
17.5	<p><u>BOCW Act & Cess Act</u></p> <p>BOCW Cess is not to be borne by contractor. Refer Annexure-I for BOCW Act & Cess Act.</p>
17.6	<p><u>Custom Clearance</u></p> <p>For all the supplies / services for the execution of the contract, rendered directly from outside India to the country of project site, the applicable taxes, duties Charges, Royalties, etc. in the country of origin shall be borne by seller / contractor and should be included in the basic price. Same shall not be payable extra by BHEL.</p> <p>For the imports, the quoted basic price includes seaworthy packing & overseas forwarding charges, applicable basic custom duty, education cess, anti-dumping duty, safeguard duty, port clearance charges (at Indian Port of Import) and any other taxes & duties. However, GST shall be payable extra as applicable.</p>

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	<p>Custom clearance for all the items imported into the project shall be in bidder's scope. Also, all type of duties, levies, fees, charges (if any) imposed by relevant agencies for Custom / any other clearance shall be to bidder's account.</p> <p>Seller/ Contractor alone shall be responsible for any delay in getting import license or non-availability of the same or completion of other related formalities. Purchaser shall not be responsible for any financial liability, whatsoever, on this account.</p> <p>In case any such benefits are published by GOI during execution of the contract, the Buyer shall submit the required documents to the seller / contractor to avail such benefit, however the benefit so received is to be passed on to the Buyer by the Seller / contractor. Alternatively, such benefits will be recovered by Buyer from the seller / contractor's bill.</p>
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Annexure-I:

Bidder may please note that the sub-contractor/bidder of BHEL engaging building or construction worker in connection with building or other construction work, are required to follow the procedures enumerated below:

1.	It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
2.	It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.
3.	It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4.	It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may, by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.
5.	It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
6.	It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other

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	Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
7.	It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
8.	It shall be the responsibility of the sub-contractor as employer to make payment/deposit of applicable cess amount on the extent of work involving building or construction workers engaged by the sub-contractor within a period of one month from the receipt of payment. It shall also be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics: i) Number of Building Workers employed during preceding one month. ii) Number of Building workers registered as Beneficiary during preceding one month. iii) Disbursement of Wages made to the Building Workers for preceding wage month. iv) Remittance of Contribution of Beneficiaries made during the preceding month
9.	BHEL shall reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.
10.	It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.
11.	Bidders may please note that though the quoted price is exclusive of BOCW (which will be reimbursed by BHEL as per sub-clause 9 above) , however, If at any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment

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	and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed, BHEL reserves the right to deduct the applicable cess (1%) on the contract value and penalty (if any, imposed by Cess Authorities) from the payables on account of non-compliance.
12.	The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.

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Chapter-XVIII: Inspection & Testing and Dispatch

18.0	INSPECTION AGENCY
	<p>Inspection shall be carried out by end customer/ end customer's consultant/ BHEL/ Third Party Inspection Agency based on the inspection schedule/ category as per approved QAP/ categorization plan/ document.</p> <p>Seller / contractor shall give inspection call in line with approved QAP/Customer/Owner Hold Points to BHEL/ Third Party Inspection Agency (as informed by BHEL) for arranging Customer / Owner / Consultant /Third Party participation (wherever applicable), with an advance notice of 15 working days (for indigenous items) and 30 working days (for imported items) for participation in inspection/ Joint inspection on the proposed date.</p> <p>During the inspection, if the equipment's are found to be not ready for inspection, all expenses incurred by BHEL /End customer /Consultant / Inspection Agency, on such planned visit will be recovered from seller / contractor. Therefore, seller to ensure readiness of equipment in all respect before the inspection.</p> <p>No item / equipment's shall be dispatched without obtaining Material Dispatch clearance certificate from BHEL irrespective of inspection categories.</p> <p>Inspection calls are to be raised by the seller / contractor through BHEL Inspection portal https://cqir.bhel.in/ or any other portal / method as instructed by BHEL from time to time.</p>
18.1	INSPECTION AND TESTING AT CONTRACTOR'S PREMISES
18.1.1	<p>Contractor nominated Inspection Agency shall have at all reasonable times access to Seller/Contractor's premises or works and shall have the power at all reasonable times to inspect drawings of any portion of the work or examine the materials and workmanship of the plant/ equipment/ stores during their manufacture, and if part of the plant/ equipment/ stores is manufactured at other premises, the Seller/ Contractor shall arrange for inspection, examination and testing by the Inspection Agency as if the plant/ equipment/ stores is manufactured on the Seller/ Contractor's premises.</p> <p>Inspection calls should be raised by the Seller/ Contractor on BHEL CQS Website/CQIR website link.</p> <p>Such inspection, examination and testing by itself shall not relieve the Seller/ Contractor from any obligation under the Order/ Contract.</p> <p>Non-conformance from the contract specifications shall be reported by the Seller/ Contractor.</p>
18.1.2	<p>Contractor shall give Inspection Agency reasonable notice of any material being ready for testing and the Inspection Agency shall (unless the inspection of tests is voluntarily waived) attend at the Seller/ Contractor's premises within seven (7) days of the date on which the material is notified as being ready. All standard shop tests, physical and chemical tests required by the standards or as may be prescribed or approved as per Order/ Contract shall be conducted by the Seller/ Contractor. Purchaser/ Inspection Agency reserves the right to waive any of the above tests requirements and to prescribe new tests, if found necessary, to complete the work so as to conform to the best practices. Seller/Contractor shall forthwith forward to the Inspection Agency, duly certified copies of the test certificates in quadruplicate, for approval. Further</p>

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	copies of the shop test certificates shall be bound with the instruction manuals referred to in "Seller/ Contractor's documents, drawings and instruction manuals". In case of delay in witnessing of inspection beyond stipulated time (i.e. 7 days from the date on which the material is notified as being ready), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in carrying out inspection. If BHEL is not able to witness inspection up to 15 days then in addition to delay beyond stipulated period, extension in delivery time of 7 days' for arranging fresh inspection will be given.
18.1.3	Where the Order/ Contract provides for tests/ inspections at the premises or works of the Contractor or any sub-contractor, the Seller/ Contractor, except specified otherwise, shall provide free of charge such assistance, labour, materials, electricity, fuel, water, stores, apparatus, measuring instruments and test equipment including any other facilities as may be reasonably required to carry out such tests efficiently.
18.1.4	Type & routine test report / certificates shall include details of standard to which the tests are performed, test parameters, acceptance criteria, test set up etc. used during the testing along with the test piece details / rating and the detailed test record and final test result.
18.1.5	Bidder's representative has to be present during joint inspection by BHEL/BHEL's TPI/Customer/Customer's consultant of their Bought-out items at their sub-vendor's works irrespective of approved QAP.
18.2	INSPECTION MEASURING AND TEST EQUIPMENT'S
18.2.1	Inspection Measuring and Test Equipment (IMTE) whether used by the Seller/ Contractor or subcontractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE maintained in sound condition during usage.
18.2.2	<p>In addition to above, Contractor shall ensure the following:</p> <ul style="list-style-type: none"> i. Measurement uncertainty is known and consistent with required measurement capability of the IMTE. ii. Selection of IMTEs is compatible with the necessary accuracy and precision of required measurement. iii. IMTEs are calibrated at the required intervals against certified equipment having known valid relationship to nationally recognized standards, at recognized calibration labs. iv. Calibration records are available and traceable to the particular IMTE. v. In case, during recalibration, the IMTE is found out of calibration, report on action taken to validate the previous results along with both calibration records of the IMTE to be furnished to Inspection Agency. vi. IMTEs are stored, handled and preserved such that accuracy and fitness are maintained and safeguarded from adjustments. <p>Note -Purchaser's decision on acceptability of the product in such cases shall be binding.</p>
18.2.3	Responsibility of usage of valid and calibrated IMTEs by his sub-contractor(s) shall be of the Seller/Contractor.

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18.2.4	In case, calibration records are required by purchaser, copies of the same shall be furnished.
18.2.5	Seller/ Contractor shall be fully responsible for the Quality of products supplied by sub-contractors.
18.3	MATERIAL DISPATCH CLEARANCE CERTIFICATE (MDCC)
18.3.1	When the tests have been satisfactorily completed at Seller/ Contractor's works, the Inspection Agency shall issue an inspection report that effect within seven (07) days after completion of the tests, but if the tests were not witnessed by the Inspection Agency or his representative, the material acceptance report would be issued within seven (07) days after receipt of the test certificates by the Purchaser.
18.3.2	Purchaser will issue MDCC to the Seller/ Contractor within 7 days based on inspection report/ test certificates/Certificate of Conformance as applicable. In case of delay in issuance of MDCC beyond 7 days stipulated time (i.e. from the date of successful inspection report), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in issuing MDCC. If BHEL is not able to issue MDCC up to 15 days then in addition to delay beyond stipulated period, 7 days9 additional time shall be given to the vendor to facilitate the vendor for arranging logistics arrangements.
18.3.3	Seller/ Contractor shall not dispatch any material before issue of MDCC by Purchaser.
18.3.4	Satisfactory completion of tests or issue of MDCC shall not relieve the seller / contractor from its obligations in terms of the contract provisions.
18.3.5	Seller / contractor to intimate BHEL (by email, in case of supply of goods) immediately on removal of goods, along with legible scanned copy of all relevant details & documents like tax invoice, packing list, delivery challan, Lorry/ Courier Receipt, e-way bill etc.
18.3.6	BHEL may require certain original (physical) dispatch documents for billing to BHEL's customer. Such original documents, as insisted by BHEL, shall be submitted to BHEL in original within 7 days from the date of removal of goods/ generation of the document, whichever is earlier.
18.3.7	BHEL may insist on using online dispatch intimation/ document submission/ data entry system during execution of the order/ contract. BHEL may also insist on preparation of certain documents/ details in specific formats. The seller/ contractor shall comply with the same.
18.4	QUALITY ASSURANCE DOCUMENTS (AS APPLICABLE) The vendor shall be required to submit the following Quality Assurance Documents (in original + one copy) within 2 weeks after dispatch of the equipment (as applicable). i) Test report of components. ii) Non-destructive examination results/ reports including radiography interpretation reports. iii) Welder identification list listing welders and welding operator9s qualification procedures and welding identification symbols. iv) Sketches and drawings used for indicating methods of traceability of the radiographs to the

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	<p>location of the equipment.</p> <p>v) Stress relief time temperature charts.</p> <p>vi) Factory test results for testing required as per applicable codes and standards referred to in the specification.</p> <p>vii) Inspection Report duly signed by QA Personnel of BHEL/ Third Party/and customer and vendor</p> <p>for the agreed inspection hold points. During course of inspection the following will also be recorded:</p> <p>i. When some important work repair work is involved to make the job acceptable.</p> <p>ii. The repair works remain part of the accepted product quality.</p> <p>iii. Letter of conformity certifying</p>
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Chapter-XIX: BBU

BOQ FORMAT Annexure-19						
AHP EPC PACKAGE FOR SIPAT SUPER THERMAL POWER PROJECT SATGE-III (1X800 MW)						
Sl. No.	ITEM DESCRIPTION	QTY.	UOM	UNIT PRICE (EX WORKS) in INR	FREIGHT	TOTAL PRICE in INR
	BROAD SCOPE: The scope for complete Ash handling systems shall include complete design, engineering, supply, manufacturing, fabrication, assembly, painting, inspection & testing at manufacturer's works, packing, despatch, transportation, delivery to site, receipt, unloading, storage at site, round the clock security, construction, erection, supervision, commissioning, performance guarantee test and handing over to Owner including all associated Mechanical, all auxiliary systems, Electrical, Control & Instrumentation, maintenance tools & tackles, start-up and commissioning spares, lubricants & consumables, Civil & Structural Steel Works, Architectural Works as specified in tender specification, amendments & agreements and as necessary for completeness in all respect for efficient & trouble free operation for SIPAT SUPER THERMAL POWER PROJECT SATGE-III (1X800 MW)					
A	Design and Engineering: Includes basic engineering, detailed engineering, preparation and submission of engineering & drawings/ calculations/ datasheets/ quality assurance documents/ field quality plans, as built drawings, Erection & commissioning procedures, operation & maintenance manuals, Performance Guarantee test procedures and obtaining approval from Customer / Customer's Consultant / BHEL.	1	Lot			
	Total for DESIGN AND ENGINEERING PORTION OF AHP EPC PACKAGE ----- ---(A)					

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Chapter-XIX: BBU

BOQ FORMAT Annexure-19						
AHP EPC PACKAGE FOR SIPAT SUPER THERMAL POWER PROJECT SATGE-III (1X800 MW)						
Sl. No.	ITEM DESCRIPTION	QTY.	UOM	UNIT PRICE (EX WORKS) in INR	FREIGHT	TOTAL PRICE in INR
B	SUPPLY: The scope includes design, engineering, manufacturing, fabrication, assembly, painting, inspection & testing at manufacturer's works, packing, despatch, transportation, delivery to site of complete Ash Handling System with associated Mechanical, all auxiliary systems, Electrical, Control & Instrumentation, maintenance tools & tackles, start-up and commissioning spares, lubricants & consumables as per BHEL NIT & tender technical specification, amendment & agreements.					
B.1	Supply of Complete ASH HANDLING PLANT with accessories along with Mechanical, Electrical and C&I	1	Lot			
	Total for SUPPLY PORTION OF AHP EPC PACKAGE -----(B)=(B.1)					
C	INSTALLATION SERVICES: Construction of open storage yard and closed storage shed, receipt, unloading, storage at site, handling at site, in-site transportation, to make approach road wherever required, Round the clock security at open storage yard, closed storage shed & erected material till handing over, assembly, complete Erection, dismantling of existing structures, alignment, painting at site, testing, inspection, carrying out Pre-Commissioning, Commissioning, trial run of system (integrated operation) at site, operation and maintenance, deployment of operation and maintenance manpower till successful demonstration and certification and carrying out Performance Guarantee Tests, Reliability Test Run, Functional/Demonstration tests at site (As applicable obtaining Provisional Acceptance Certificate					

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Chapter-XIX: BBU

BOQ FORMAT Annexure-19						
AHP EPC PACKAGE FOR SIPAT SUPER THERMAL POWER PROJECT SATGE-III (1X800 MW)						
Sl. No.	ITEM DESCRIPTION	QTY.	UOM	UNIT PRICE (EX WORKS) in INR	FREIGHT	TOTAL PRICE in INR
	(PAC), Final Acceptance Certificate (FAC), Training owner's engineers and O&M staffs and handing over of Complete system to end Customer including equipment & sub-systems, complete with all accessories for the total scope defined as per tender specification, amendment & agreements.					
C.1	Installation Services of Complete ASH HANDLING PLANT including all auxiliary systems, equipment/sub-systems, Electrical and C&I	1	Lot			
	Total for INSTALLATION SERVICES, ERECTION & COMMISSIONING, PG TEST, HAND OVER PORTION OF AHP EPC PACKAGE -----(C) -(C.1)					
D	DESIGN, SUPPLY and Installation Cost-CIVIL, STRUCTURAL AND ARCHITECTURAL PORTION OF ASH HANDLING PLANT					

	Total Price of Package (A+B+C+D)		₹
	Total Price of Package in Words (Rupees)		-