TABLE OF CONTENTS

1.1 INTENT OF SPECIFICATION

Sl. No	Description
1	This specification is intended to cover supply and installation for Balance of Plant (BOP) as detailed hereinafter for 2 x 500 MW Units.
2	The scope shall include design, engineering, manufacture, procurement, inspection and testing at manufacturer's works, packing and shipment and delivery at site. In addition, the Bidder's scope shall also include dismantling of any existing structures, erection/installation including unloading, storage and handling at site, site testing, commissioning, trial run, performance and guarantee tests and other services including supply coordination, engineering and project management related to the equipment/systems, as specified hereinafter and in accordance with the requirements, conditions, appendices, drawings etc. as stated in Volume I and Volumes II, III, IV, V, VI and VII which shall be considered as a part of this specification as completely as if bound herewith.
3	The specification consists of Volumes: I, II, III, IV, V, VI and VII detailed index of which has been furnished elsewhere. This specification shall be read and construed in conjunction with the drawings and annexure to determine the scope of work and terminal points. The quantities shown on drawings and annexure are indicative. Any variation arising during detailed engineering stage will be taken into account by the Bidder without any extra cost and time to the owner.
4	Bidder shall be responsible for providing all material, equipment and services, specified or otherwise which are required to complete the scope and fulfil the intent of ensuring efficiency, operability, maintainability and the reliability of the complete work covered under this specification. It is not the intent to specify completely herein, all aspects of design and construction equipment. Nevertheless, the equipment shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation, in a manner acceptable to Owner, who will interpret the meaning of the specification, drawings, equipment's of operation, maintenance redundancy etc. and shall have a right to reject or accept any work or material which in his assessment is not complete to meet the requirements of this specification and/or applicable National and International standards mentioned elsewhere in the specification.

5	Bidder is requested to carefully examine and understand the specifications and seek clarifications, if required, to ensure that they have understood the specifications. The Bidder's offer should not carry any sections like clarifications, interpretations and/or assumptions. In the event of conflict between the requirements of any two clauses of this specification/ documents or requirements of different codes/standards, the more stringent requirement shall govern, unless confirmed otherwise by the Owner in writing before the award of this contract, based on a written request from the Bidder for such a clarification. However, if the Bidder feels that, in his opinion, certain features brought out in his offer are superior to what has been specified, these may be highlighted separately.
6	The Bidder may also make alternate offers provided such offers are superior in his opinion, in which case, adequate technical information, operating feedback data, etc. shall be enclosed with the offer, to enable the Owner/consultant to assess the superiority and reliability of the alternatives offered. In case of each alternate offer, its implications on the performance, guaranteed efficiency, auxiliary power consumption etc., shall be clearly brought out for the Owner/consultant to make an overall assessment. In any case, the base offer shall necessarily be in line with the specifications. Under no circumstances the specified equipment and services shall be brought out as an alternative offer.
7	Whenever a material or article is specified or described by the name of a particular brand, manufacturer or trade mark, the specific items shall be understood as establishing type, function and quality desired. Other manufacturer's products may also be considered provided sufficient information is furnished so as to enable the Owner to determine that the products are proven and equivalent or superior to those named.

1.2 TERMINAL POINTS

Sl. No	Description
1)	**General**
a)	Provision of all cable trenches, pipe racks and cable racks for all pipes and cables being supplied by the Bidder is included in the Bidder‘s scope. The pipe and cable rack shall also be able to take care of the load of pipe and cables of Purchaser's scope (NTA1 & NTA2 package) wherever it requires to be commonly routed within NTA-3 battery limit.

b)	Wherever stubs / nozzles are provided at the terminal point by the Owner/other Bidder for Bidder's scope of work, it shall be the responsibility of the Bidder to supply all the necessary jointing materials and make the final connection at the terminal points.	
c)	Wherever stubs / nozzles are provided at the terminal point by the Bidder for the Owner/other Bidder's scope of work, it shall be the responsibility of the Owner/other Bidder to supply all the necessary jointing materials and make the final connection at the terminal points.	
d)	ETC….	
2)	**Lignite**	
a)	Discharge point of M0 conveyor.	
b)	Up to the bunker of NTA1 package. The conveyor equipment, etc. meant for bunker filling are in Bidder's scope of supply. Floor gratings and the entire bunker bay (civil & structural works) including the roof and side coverings is included in the NTA1 Package (Steam Generator & Auxiliaries Package) Bidder's scope.	
c)	Flange Connection for Steam Jacket in Crusher House. (Auxiliary Steam Connection, Header and associated piping, valves etc upto flange connection is included in NTA1 Package.)	
3)	**Bottom ash and Fly ash**	
a)	Bottom ash Entire system from the outlet of scrapper chain conveyor. (Slag bath overflow water cooling and recycling system is in NTA1 bidder's scope.)	
b)	Fly ash Entire system from the outlet flanges of all fly ash hoppers of economiser, air preheaters, ducts and ESP. Clear height between the various hoppers are indicated below. Tentative elevations are given below. However, the exact elevation will be furnished to the bidder during detail engineering.	

	Economiser Hoppers : 30.7meters Air pre-heater hoppers : 7.35 meters Gas duct hoppers : 7.35 meters All ESP hoppers : 4.3 meters The height of the platform shall be 3.5 meters from the respective hoppers. For meeting the cooling water requirement of ash handling system package, a single terminal point of DMCW in C-row will be provided by the NTA1 bidder. The NTA3 bidder shall provide necessary supply pipes to the ash handling user points. Also, the return hot water pipes will be terminated by the bidder at the same location.	
c)	Fly ash Entire system from the outlet flanges of all fly ash hoppers of economiser, air preheaters, ducts and ESP. Clear height between the various hoppers are indicated below. Tentative elevations are given below. However, the exact elevation will be furnished to the bidder during detail engineering. Economiser Hoppers : 30.7meters Air pre-heater hoppers : 7.35 meters Gas duct hoppers : 7.35 meters All ESP hoppers : 4.3 meters The height of the platform shall be 3.5 meters from the respective hoppers. For meeting the cooling water requirement of ash handling system package, a single terminal point of DMCW in C-row will be provided by the NTA1 bidder. The NTA3 bidder shall provide necessary supply pipes to the ash handling user points. Also, the return hot water pipes will be terminated by the bidder at the same location.	
4)	**CW, ACW, DM Water & other Auxiliary Water Systems**	

a)	Condenser Cooling Water System (CW system) Bidder shall terminate the CW piping at the following terminal points • Unit-1 CW Inlet Header : 2508N, 39238 E CW Outlet Header : 2508 N, 39188 E • Unit-2 CW Inlet Header : 2508N, 39138 E CW Outlet Header : 2508 N, 39088 E Exact elevation of the pipe shall be furnished during detail engineering of battery limit.	
b)	DM Water for CPU regeneration system The stub connection shall be provided by the Bidder in the discharge header of the DM water transfer pump adjacent to the CPU regeneration building. c) CW, ACW, DM water & other Auxiliary water System	
d)	DM Water for CPU regeneration system The stub connection shall be provided by the Bidder in the discharge header of the DM water transfer pump adjacent to the CPU regeneration building. e) CW, ACW, DM water & other Auxiliary water System	
5)	**Flue Gas** Inlet of Chimney: The terminal point shall be 1m from the outer shell of Chimney (matching flanges, and expansion joints for the flue gas ducts at the chimney inlet are included in the NTA 1 Bidder's scope).	
6)	**Compressed (Service & Instrument air System) Air System** A tapping shall be provided by the Purchaser with isolation valve in each of the service air and instrument air header outside the compressor house. Indicative parameters of SA &IA shall be not less than 8 kg/cm^2 at the outlet of receiver. Bidder has to provide further piping's and valves etc. as per the system requirement.	

	A Stub with isolation valve shall be provided in on both Service air & Instrument air lines near CPU regeneration building.	