



**TITLE: 2X660 MW MOUDA STPP STAGE-II,
MOUDA**

SCOPE OF WORK

SPECIFICATION NO. PE-TS-385-600-C001

VOLUME – IIB

SECTION “A”

REV. 00

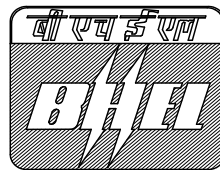
SHEET 1 OF 2

NTPC
MOUDA, SUPER THERMAL POWER PROJECT
2X660 MW, STAGE-II

VOLUME: II B
SECTION - A

SCOPE OF WORK

SPECIFICATION NO. PE-TS-385-600-C001



Bharat Heavy Electricals Limited
Project Engineering Management
Power Sector, PPEI Building
Noida-201 301

	TITLE: 2X660 MW MOUDA STPP STAGE-II, MOUDA SCOPE OF WORK	SPECIFICATION NO. PE-TS-385-600-C001	
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Scope of Work

- 1.0 The scope of work covers Civil, Structural Steel and Architectural works for Mouda STPP, Stage-II, including supply of all materials, labor, tools and plants. The scope of work is indicative but not limited to the given below.
 - Mill & Bunker Building including Bunkers
 - Transfer Points
 - Conveyor Galleries and its supporting Trestles including staircases, Gravity Take up Structure.
- 2.0 The works to be performed under this contract consist of providing all labour, supervision, material, scaffolding, construction equipments, tools and plants, temporary works, supplies including POL, transportation and all incidental items not shown or specified but reasonably implied or necessary for the proper completion of work in all respects & preparation of fabrication drawings (Contractor to engage an independent agency with the approval of BHEL for checking of fabrication drawings prepared by contractor before submitting them to BHEL for approval). Works shall only be carried out with approved structural fabrication drawings.
- 3.0 Supply, Fabrication and erection of structural steel work involving rolled section, sections fabricated out of plates, chequered / electroforged gratings, hand rails, primer and final painting for all steel structural works including supply of erection bolts if any, low hydrogen quality electrodes for welding, non destructive testing etc. Complete as per Quality Plan/Customer requirements.
- 4.0 All the works areas shall be adequately flood lighted to the satisfaction of the Engineer-in-Charge when the work is in progress during the night shifts.
- 5.0 The unit rates shall include all material equipment, fixtures, labour construction plant, temporary works and everything whether of permanent or temporary nature necessary for the completion of job in all respects.
- 6.0 The unit rates quoted for various items of B.O.Q shall include all the stipulations mentioned in Section C and technical specifications under Section D and nothing extra over B.O.Q rates shall be payable.
- 7.0 Design drawings showing enough details for the construction as per the specification shall be furnished to the contractor in a phased manner as far as possible.

SUB-SECTION - IIID

CIVIL WORKS

MOUDA SUPER THERMAL POWER PROJECT
STAGE-II (2x660 MW)
STEAM GENERATOR PACKAGE

TECHNICAL SPECIFICATION
SECTION-VI
BID DOCUMENT NO. : CS-9575/9571/0370/0360/9586-102(R)-2

CLAUSE NO.	SCOPE OF SUPPLY & SERVICES			
	CIVIL WORKS FOR STEAM GENERATOR & AUXILIARIES PACKAGE			
1.00.00	SCOPE OF CIVIL WORKS			
1.01.00	Scope of Bidder for Civil Works shall include but not be limited to the design, supply and erection of the following:			
1.01.01	All supporting steel structures (excluding foundation which shall be provided by Employer) for the areas, plants, systems and facilities (including all piping/cables/ducts therein) as mentioned below: a) Steam Generator & Auxiliaries b) Power cycle piping consisting of MS, HRH, CRH and auxiliary steam piping c) Mill reject handling system d) Compressed Air System e) Mill Bunker Building, Transfer points, conveyor galleries and its supporting trestles. f) Equipment cooling water system.			
1.01.02	All supporting steel structures for Boiler Elevator, cladding for elevator enclosure, machine room for elevator including structural steel beams for machine room floor, roof & wall beams, etc.			
1.01.03	All interconnecting steel platforms, between Boiler & Main Power House and Boiler & Mill Bunker Building, with associated ladders/stairs, gratings, handrails, etc.			
1.01.04	All civil, structural and architectural works (excluding foundations) for mill bunker building, coal transfer points and coal conveyor galleries and supporting trestles in Boiler area including staircases, gravity take up structure for conveyors, etc. In the tender drawing, mill bunker building has been shown independent of boiler supporting structure. However, bidder has the option to integrate this building with the boiler supporting structure. Similarly, TPs/ trestles may be used for duct support structures and other facilities in the area. Bidder should indicate the arrangement proposed by him along with corresponding general arrangement drawings in his bid.			
1.01.05	All anchor fasteners, foundation bolts along with templates, inserts and embedments along with lugs, pipe sleeves with lugs, monorail beams, etc., complete whatsoever required for supporting equipment and structures			
1.01.06	All miscellaneous steel structures such as gratings, handrails, ladders/stairs, platforms, edge protection angles/tees on equipment foundations, etc.			
1.01.07	Dressing of foundations, grouting of pockets and underpinning of base plates for structures/ equipment, etc.			
1.01.08	Furnishing of foundation loading data, anchor bolts plans, pocket details, equipment mounting details, opening details on floor / walls / cladding / roof, embedments and inserts details, etc., in the form of input drawings to the Employer, for the Employer's engineering work			
MOUDA SUPER THERMAL POWER PROJECT STAGE-II (2X660 MW) STEAM GENERATOR PACKAGE		TECHNICAL SPECIFICATION SECTION-VI BID DOC. NO.: CS-9575/9571/0370/ 0360/9586-102(R)-2	PART-A SUB-SECTION-III:D CIVIL WORKS	PAGE 1 OF 4

CLAUSE NO.	SCOPE OF SUPPLY & SERVICES			
1.01.09	Fixing supports, filling and finishing of openings for pipes/cables/ducts in floors/walls/cladding/roof, etc.			
1.01.10	PTFE bearings for supporting of Bidder's structures on Employer's structure (TG building) and for conveyor gallery supports on Bunker building, trestles and TPs.			
1.01.11	Corrosion protection painting for structures			
1.01.12	Painting of portions of Employer's structures wherever connection/welding is carried out by Bidder for supporting his structures			
1.01.13	All rectification including painting of Employer's structures which are damaged by Bidder during his work			
1.01.14	Sheeting work for roof (penthouse)/ canopy/ side cladding of Steam Generator, mill bunker building, transfer points and conveyor galleries.			
1.01.15	Placement of the embedments/anchor bolts supplied by the Contractor, shall be done by the Employer. However the accuracy of the embedments/anchor bolts in plan and elevation shall be checked and ensured by the Contractor during the placement of the same. Any modification required on these embedments/anchor bolts subsequent to their placement shall be done by the Contractor.			
1.01.16	Supply, installation and erection of steel helical springs and viscous dampers for PA, FD and ID Fans shall be in Bidder's scope.			
1.01.17	Any other facilities / structures that would be required, as per the system requirements covered under various sections / chapters of this specification but not covered here above.			
1.01.18	Doors, windows & ventilators, glazing with polycarbonate sheets.			
1.01.19	Roof & floor drainage of SG supporting structure, mill bunker building and TPs			
1.01.20	Detailed technical requirements for Civil Works are covered elsewhere in the specification			
2.00.00	CONSTRUCTION FACILITIES The following are also in the Contractor's scope of work : - Providing drinking and service water for Bidder's labour, staff and other personnel working for Bidder at the work site and in his staff/labour colony. He shall install necessary borewells with associated pumping and treatment facilities to supply quality water as per standards. - Developing temporary staff colony and labour colony along with fencing etc. Land if required shall be arranged by the Bidder himself. - Providing all arrangements for distribution of construction power at various locations as per his requirements from the supply point of Employer. - Providing all arrangements for the supply of construction water including bore-wells. - Providing temporary construction office, construction stores (open / covered), workshops, material / field testing laboratory, any other temporary buildings			
MOUDA SUPER THERMAL POWER PROJECT STAGE-II (2X660 MW) STEAM GENERATOR PACKAGE		TECHNICAL SPECIFICATION SECTION-VI BID DOC. NO.: CS-9575/9571/0370/ 0360/9586-102(R)-2	PART-A SUB-SECTION-III:D CIVIL WORKS	PAGE 2 OF 4

CLAUSE NO.	SCOPE OF SUPPLY & SERVICES			
	6. Providing all construction equipment, labour and materials. The Bidder shall provide all the tools and tackles required for the work. 7. Development of the pre-assembly and storage yard with fencing, drainage, internal roads, boulder soling, etc. 8. i) Approach road to project site is available. Further, Employer intends to construct the roads as per the layout shown in the General Layout plan in a progressive manner. Some of these roads may not be available to the bidder for his use. Similarly the drainage network for the plant site being constructed by the employer may not be available to full extent. The bidder shall plan his work within the plant area considering the above constraints of roads and drains. Access roads to his work sites, offices, stores, preassembly / fabrication yard, etc. as required for providing approach/access for men, materials, equipment, cranes, trailer, construction/erection activities etc., what so ever are required by the bidder, shall be constructed and maintained by the bidder. ii) Hard crusting (boulder soling) of 200mm thick shall be provided below the column envelope of boiler and air preheater area and 7.0 m width access from the roads shown in General Layout Plan for feeding material for each boiler erection either from left hand side or right hand side of boiler shall be provided, as indicated in General Layout Plan, by the employer. All other hard crusting for approach/access by the bidder for movement of material, equipment etc to be constructed and maintained by the bidder. 9. Area lighting at the construction / erection site, pre-assembly and storage yard, office areas and labour / staff colony. 10. Providing all necessary fire fighting devices / equipment / fire tender etc. required during the project execution stage. He shall maintain all such equipment / devices in proper working conditions throughout the period of work. 11. Providing first aid facilities at the construction / erection sites, workshops, laboratories, pre-assembly and storage yard and other places of work as per the requirement. 12. The Contractor shall arrange skilled / semiskilled / unskilled manpower from local source(s) as far as available in this country. He shall also arrange supervisory staff for quality execution of all works in his scope. 13. Contractor's office, store, workshop, laboratory or any other temporary buildings: The Contractor shall adopt pre-engineered/ pre-fabricated constructions made of steel with single / double skin, insulated for un-insulated roof and wall coverings (fabricated out of permanently color coated metal sheets) for his site office, covered store workshop, laboratory or any other temporary buildings. Alternatively, bidder can adopt readymade 'Portacabin' or similar construction. Bidder shall ensure that all such constructions are well-engineered, neatly constructed and overall present a pleasing look. The above requirements shall be applicable to his sub-vendors also and bidder shall be responsible for enforcing the same on his sub-vendors.			
MOUDA SUPER THERMAL POWER PROJECT STAGE-II (2X660 MW) STEAM GENERATOR PACKAGE	TECHNICAL SPECIFICATION SECTION-VI BID DOC. NO.: CS-9575/9571/0370/ 0360/9586-102(R)-2	PART-A SUB-SECTION-III:D CIVIL WORKS	PAGE 3 OF 4	

CLAUSE NO.	SCOPE OF SUPPLY & SERVICES		
	14. Use of ash and ash based products: In line with Gazette Notification on Ash Utilization issued by MOEF and its amendment thereafter, Bidder shall use ash and ash based products in construction of his offices, stores, staff quarters and labour huts etc. He shall furnish a compliance report along with all details of use of ahs and ash based products along with each bill. The above requirements shall be applicable to his sub-vendors also and Contractor shall be responsible for enforcing the same on his sub-vendors. 15. Repair & Maintenance Facilities by the Bidder: Bidder shall establish/set up at site suitable repair facilities for construction plant, equipment and machinery (like cranes, hydra, forklifts, welding equipments, etc.) He will also make arrangements/tie up with manufacturers/ suppliers of such construction plant, equipment & machinery, for periodic overhaul/maintenance and for major breakdown, if any. He shall also keep adequate stock of spares at site for various construction plant, equipment and machinery to meet day to day requirements as recommended by the equipment manufacturer/suppliers or as instructed by the Engineer. Bidder shall deploy dedicated qualified, full time mechanical/electrical foreman/supervisors for manning the repair facilities as specified above.		
MOUDA SUPER THERMAL POWER PROJECT STAGE-II (2X660 MW) STEAM GENERATOR PACKAGE		TECHNICAL SPECIFICATION SECTION-VI BID DOC. NO.: CS-9575/9571/0370/ 0360/9586-102(R)-2	PART-A SUB-SECTION-III:D CIVIL WORKS
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