

PROJECT
TENDER NO.
SUBJECT

: STEAM GENERATION PLANT AT TALCHER, ODISHA
: PNMM/PC-150/E-4003/NCB
: REPLY TO PRE-BID QUERIES : LOT 12 Dated 30.03.2021

Sl. No.	Reference of Tender Document				Bidder's Query	PDIL/TFL's Reply
	Section No.	Page No.	Clause No.	Subject		
1.	PC150/E/4003/ SecVI-5.3.4	20 OF 30	6.2.1	Bed ash handling system	Due to space constraint below bed ash cooler outlet, drag chain conveyor shall be provided if required. Drag chain conveyor will extract ash to surge hopper from where pneumatic arrangement shall be provided to convey ash to silos.	Bidders to comply the Amendment.
2.	PC150/E/4003/ SecVI-5.3.4	25 OF 30	6.8	The conveying air compressor shall be Oil injected Screw type.	Oil free compressors are proposed for the following reasons: 1) Number and thus complexity of conveying air system will get reduced. 2) It is proven in earlier projects. Please confirm.	Bidders to comply the Amendment.
3.	Tender drawing	-	-	PC009-0000-0001	In the latest plot plan bed ash silo is placed away from boilers. It is proposed to place the bed ash silo near boiler of one of the units in order to reduce the conveying distance and thus auxiliary power requirement. Please confirm.	Bidders to comply the Amendment.
4.	PC150/E/4003/ SecVI-5.3.4	-	-	Bed material handling.	Fresh bed material shall be lifted for filling by hoist. Please confirm.	Bidders to comply the Amendment.
5.	PC150/E/4003/ SecVI-5.3.4	-	-	Auxiliary power consumption.	The following equipments (with no. of working as required for 2 units) with duty factors shall be considered for auxiliary power consumption:- 1) Ash compressors - 1. 2) Lime compressors - 0.5. Please confirm.	Bidder to decide duty factor of their equipments. However, Bidder shall meet guaranteed power Consumption.
6.	Pre Bid Replies	-	-	Bidder to consider the online changeover of Boiler without sacrificing the net export quality & quantity of HP steam at any point of time. Accordingly complete system including all headers, steam lines, cooling water lines, equipment, electrical cabling and equipment etc. shall be designed.	Customer to clarify the following with respect to Ash Handling System: Currently the number of equipment is proposed considering 2 working boilers with standby as per specification. For example the number of compressors is considered as, say, 4 working for 2 units with 4 number as standby. With the online changeover arrangement do we need to consider equipment considering 3 working boilers e.g., In line with the preceding example, do we need to consider 6 working and 6 standby compressors for 3 working units.	Bidder to design the system as per Sl. No. 28 of Amendment-XV.
7.	Tender Specification "Section-VI- 3.0 Bidder's Scope of Work", Page No. 3	Amendment XV, Sl No. 17		"LSTK Contractor's responsibility is to meet Central & State Pollution Control. If required, <u>Bidder shall provide the permanent complete Ammonia dilution system along with required piping, valves etc.</u> for Ammonia (99.9% purity) to achieve	For SNCR scope, aqueous ammonia is recommended. The concentration of aqueous ammonia will be 19% to 25% for SNCR system. Request, TFL/PDIL to specify the aqueous	NIT Condition Prevails. Bidder to consider Dilution System of Concentrated Ammonia as per requirement in their scope. The Dilution System shall be within Battery Limit of SGP.

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	of 10, Clause no. 1.2 (f)			required concentration of Ammonia for SCR/ SNCR within their B.L. of SGP."	ammonia concentration.	
8.	REPLY TO PRE-BID QUERIES : LOT 11 Dated 04.03.2021	Point No. 11		11kV incoming Power: Point. 11 of "REPLY TO PRE-BID QUERIES : LOT 11 Dated 04.03.2021": "Electrical System shall be designed as per Continuous Peak Load, Future Margin etc. (as per clause No. 2.1.6 m of Section VI-5.4 : Design Philosophy - Electrical), considering all the 3 boilers in normal operation. MRSS shall be located in the Area marked as Electrical Distribution System' in Revised Plot Plan, attached with Amendment-XV. For Voltage Drop etc., NIT condition shall prevail. Amendment, if required shall be issued."	As per the reply, we understand that the 11kV power to feed bidder's proposed 11kV Switchgear shall be provided from MRSS which is located adjacent to the SG area in the space marked as "Electrical Distribution System and EDG". Thus the route length, i.e., 1300mtr, indicated earlier for the incoming cables to bidder's proposed 11kV switchboard from MRSS is ignored. Now the route length shall be considered based on the new location of MRSS i.e., "Electrical Distribution System and EDG" as . Please confirm.	Confirmed.
9.	Vendor List for Electrical Actuators	2437 of 2464		Following Foreign Vendors are to be contacted for Budgetary offer. Based on the tender specification for Talcher Fertilizers project, Electrical Actuators are to be procured from the vendor's country specific offices indicated in bracket. 1. Biffi Italia S.R.L. (ITALY) 2. Limitorque (U.S.A) 3. Rotork Control (Deutschland) Gmbh (GERMANY) 4. Auma (U.S.A)	With regard to Electrical Actuator Vendor list we wish to submit as follows: 1. No listed vendor has responded to the request for budgetary offer for Electrical Actuators for this project. 2. It is mentioned by in tender document that the "Vendor List enclosed with the NIT shall only be followed". There is no assurance from TFL/PDIL that Indian actuator vendors during contract stage shall be included. In case TFL/PDIL did not accept the Indian Vendors , it will be very difficult to execute the project. 3. There are many special features are mentioned in the tender specification for Electrical Actuators. These include the following: a) The motor shall be conforming to Explosion proof category: Ex "d", Gas group IIC, T3. b) Digital position indicator with display from fully open to fully closed in 1% increment. c) Contacts of limit switches shall be Gold plated. d) Intrinsically safe design No vendor has agreed to supply actuators with the above features. No budgetary offer has been received from any vendor till date from listed Vendor including Indian Vendors. 4. It is impossible to source the actuators by import, given the situation and guidelines of	Bidder to note that Vendor List enclosed with the NIT shall only be followed. However Bidder to take cognizance of Sec VI-15.0 Vendor List ,Note-4. NIT clause must be followed by the Bidder.

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					Govt. of India and make in India initiatives. In view of above, we request for following: a) Indian Vendors shall be acceptable for actuators during proposal stage itself. Following are the proposed Electrical Actuator Vendors: (i) Auma(India) Private Ltd, Bangaluru (ii)Limitorque India Ltd, Faridabad (iii)Limitorque India Ltd, Chennai (iv)Rotork Controls (India) Private Ltd, Chennai (v) Antrieb Technik Private Ltd, Chennai This Vendors are already registered supplier for major clients/ PMC like NTPC, PDIL, EIL, DESEIN, JACOBS . Details enclsoed. Pending addition of additional Indian Vendors in Master Vendor list or due clarity from PDIL/ TFL, we are finding it very difficult to proceed ahead. b) In case no Indian OEM/ Vendor of Electrical Actuators is conforming to certain special features, however same is meeting the functional intent, TFL/PDIL should relax the special features of electrical actuators during execution stage without any price implications.	Bidder to note that Vendor List enclosed with the NIT shall only be followed. However Bidder to take cognizance of Sec VI-15.0 Vendor List ,Note-4
10.	PC009/E/4003/SE CVI-3.0 Amendment - XVIII dated 09.03.2021	2.21 , 9 of 10 Sl no 2 , 1 of 7		Supervisory assistance for operation & maintenance of SGP for Twelve months period after Successful Commissioning, with following manpower as defined in below table.....	Wish to submit that there are multiple agencies available in the market carrying out O&M, assistance for CFBC Boiler packages and can be obtained at competitive prices. Accordinlgy, we feel that the requirement of assistance for O&M can be deleted from the tender requirement. However Contractor shall assist Owner in finalisation of supervisory personnel for O&M assisstance. Alternatively, we request PDIL/TFL to make this requirement as optional & not to be considered for evaluation of Bids.	Bidder to follow the NIT and subsequent Amendment.
11.	Amendment No. XVIII dated 09.03.21	Page 1 of 7/ Sl.No.1		Revised Attachment-2 dated 04.03.2021 is attached	There is no attachment -2 dated 04.03.2021 available wuith the Amendment. Request provide the same.	Refereed attachment-2 dated 04.03.2021 is attached.
12.	6,7 & 8	4 & 5 OF 7	M	ID and FD Fan for each boiler shall have the configuration of 2W+0S. ID and FD fan shall be Electric motor drive or Steam turbine drive (with electronic governor).However, electric motor drive is preferred. Motor drives shall have VFD with DOL (Direct online) bypass arrangement.	We have considered 2 x 50% fans (PA, SA & ID) with 20% margin on each fan. However each fan is capable of operating at 60% BMCR. PDIL / TFL to confirm.	Requirement of Fans has been specified in the NIT & Subsequent Amendment. Bidder to design accordingly.

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				Capacity of each fan shall be 60% of normal conditions. The Primary Air fan shall be variable speed, horizontal, radial, backward curved and electric motor driven or steam turbine driven (with electronic governor). Capacity of each fan shall be 60% of normal conditions. Primarily the fan control shall be with Variable Frequency Drive (VFD) with DOL (Direct Online) bypass facility. The Secondary air fan shall be variable speed, horizontal, radial, backward curved and electric motor driven or steam turbine driven (with electronic governor). Capacity of each fan shall be 60% of normal conditions. Primarily the fan control shall be with the variable frequency drive (VFD) with DOL (Direct Online) bypass facility.		
13.	-	-	-	Pre bid reply Lot -8 s.no 15. As per the reply, there is no need of cutting and filling for making the FGL 97.00m and only micro grading will be in the scope of bidders.	We have done a soil investigation for the proposed plant area and noted that Ash filling is present to the extent of 3m is noted. So we want to confirm you that the entire ash fill in our battery limit area will be removed by the owner and graded site to the level of 97.00m without ash fill will be handed over to the bidders. Please confirm	Bidder understanding is correct.
14.	Prebid reply lot 11 – point no : 5				Please elaborate "The extent of paving up to adjacent peripheral drain" to understand the scope : 1. The paving units means paving around the equipment's like Boiler, ESP, SNCR shed, MCC building...etc and not the battery limit line. 2. Some of the structures like conveyor, pipe rack, pipe supports areas will not have the peripheral drains and request you to confirm that paving is not required for these areas.	1. Paving shall be done on entire plant area having various equipment, facilities, buildings and structures upto adjacent peripheral drains i.e. area should be paved in totality as a unit and not in parts where equipment are placed. However, future area of 2x45MW STG including boiler & its auxiliaries shall be excluded from paving. 2. Paving is required for this area. Details shall be reviewed and commented during detailed engineering.
15.	Sheet 9 of 200 and Amendment-XV dated 08.02.2021 page no 33 of 122 S.no.67			Provision for 2x 45 MW STG and boiler in Plot plan	Please note that the future boiler and STG area covers the complete EDS area. Kindly check and confirm.	SGP Area as well as 2 x 45 MW STG and Boiler shall be accommodated in Area earmarked as 'Steam Generation Plant' in Plot Plan. Electrical Distribution System is dedicated for other facilities and cannot be provided for SGP Package. Bidder to design Layout accordingly.

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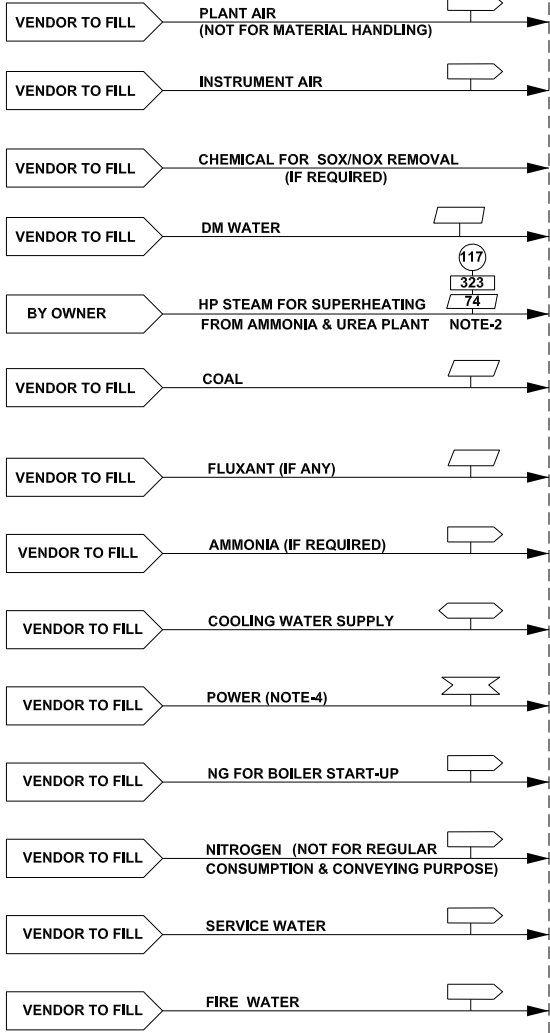
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16.					<p>1. Import of Saturated HP steam from Ammonia plant is provided at the plant battery limit which will be routed to individual boiler and mixed with the continuous steam before Final Superheater sections. The combined superheated HP steam is connected to the common header and then routed to battery limit.</p> <p>2. As per <u>Amendment-XV issued in Feb 2021</u>, the difference between Sat. HP pressure available & superheater HP steam at the plant battery limit is reduced significantly to 5 kg/cm² from earlier 10-11 kg/cm²(g) during normal and maximum operating condition.</p> <p>3. It may please be noted that superheated HP steam parameters is being governed by the pressure requirement at the plant battery limit. Considering the pressure drop in the pipe (i.e. boiler outlet to B/L, Superheater drop & Pressure drop in Sat HP steam from B/L to Boiler Inlet), We require minimum pressure drop of 10-11 kg/cm²(g) during normal and maximum operating condition between battery limit for superheated steam and saturated steam at the plant battery limit.</p> <p>In view of above, the sat. steam requirement at plant battery limit shall be minimum as <u>118 / 123 / 126 kg/cm²(g)</u> at the plant battery limit considering the pressure in piping and superheater section of boiler. This aspect is very critical for finalisation of our basic design and offer finalisation and due clarity is required. Request review this aspect and we propose to have a VC/Telecon with PDIL on this aspect.</p>	<p>Bidder requirement cannot be fulfilled since available pressure of saturated HP steam at Ammonia-Urea Plant B.L. is Min./ Nor. / Max. 118 / 120 / 123 kg/cm²(g).</p> <p>Considering pressure drop across the piping, final available pressure at SGP B.L. has been provided in Amendment-XV. Therefore, Bidder to follow the Sl. No. 13 of Amendment-XV.</p>

**ATTACHMENT-2 TO SECTION-VI-1.0
STEAM GENERATION PLANT**

BATTERY LIMIT

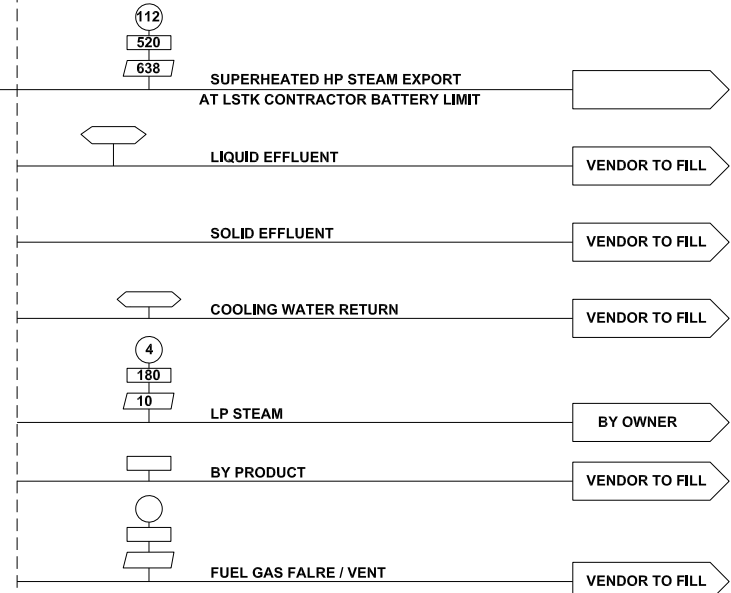
**COAL & FLUXANT
HANDLING**

**BOILERS
CONFIGURATION = (2+1) 282 MT/hr EACH
NOTE-1**

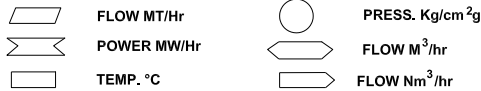


NOTE :-

- THE SCHEME IS INDICATIVE ONLY, VENDOR IS AT LIBERTY TO SELECT ANY OTHER SCHEME TO FURTHER OPTIMIZE BOILER RATING FULFILLING THE FOLLOWING CONDITIONS.
 - TO STRICTLY ADHERE TO IBR RULES WITH RESPECT TO BOILER & ACCESSORIES LIKE BFW PUMPS/DRIVES ETC.
 - VENDOR TO FIX UP BOILER CAPACITIES SUCH AS TO MEET.
 - ALL INTERNAL STEAM REQUIREMENT WITHIN SGP.
 - EXPORT STEAM AS SPECIFIED.
- DM WATER WILL BE SUPPLIED AT BATTERY LIMIT AT APPROX 40 °C
- STEAM SUPER HEATING COIL SHALL BE DESIGNED FOR 82 MT/HR I.e. SUPERHEATING COIL OF EACH BOILER SHOULD BE DESIGNED FOR 41 MT/HR.
- DURING NORMAL OPERATION OF 2 BOILERS TO MEET THE GUARANTEED STEAM REQUIREMENT ON CONTINUOUS BASIS, THE AVERAGE POWER CONSUMPTION SHALL NOT EXCEED 8 MW (FOR 72 HOURS CUMULATIVE BASIS). HOWEVER, DURING BOILER CHANGEOVER CASE, THE PEAK POWER REQUIREMENT SHALL NOT EXCEED 14 MW AT ANY POINT OF TIME.



LEGEND



2	04.03.21	REVISED FOR AMENDMENT	SKK	SK	MN
1	05.02.21	REVISED FOR AMENDMENT	SKK	SK	SCK
0	31.01.20	ISSUED FOR TENDER	SKK	SK	SCK
REV.	DATE	DESCRIPTION	PPD.	CKD.	APPD.
CLIENT			REV. 0/1/2		
TALCHER FERTILIZER LIMITED			SCALE: NTS		
TITLE: BATTERY LIMIT SCHEME FOR SGP			DWG.NO. PC150-1000-032		
PLANT: STEAM GENERATION PLANT			SHEET 1 OF 1		
PROJECT: TFL, COAL BASED AMMONIA/UREA PLANT					
PROJECTS & DEVELOPMENT INDIA LTD. NOIDA					