Project Engineering
Management

Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)

1X700 MW BELLARY UNIT-3 / OZONE GENERATION PLANT

Ref No. : PE/PG/BL3/E-4345/13 **Date: 24.03.2014**

CORRIGENDA / ADDENDA-1

Tender Enquiry no.: PE/PG/BL3/E-4345/13
Dated: 28.02.2014

Pre-Bid queries were received from bidders and same are enclosed herewith (along with BHEL's reply) for your information and n.a. please.

Bidder to quote accordingly.

With Regards,
For & on behalf of BHEL

24/3/14

Rohit Juneja
ENGINEER/PG-II-1

Please reply to:
Rohit Juneja
PG-II-1
Power Project Engineering Institute Building
HRD & ESI Complex Plot No. 25, Sector -16 A,
BHEL-PEM,Noida-201301 (U.P.)
Tel No. 0120-4368848, Fax: 0120-4329106

1 x 700 MW BELLARY THERMAL POWER STATION (TPS)
PRE-BID QUERIES

Sr. No.	Volume No.	Page No.	Clause No.	Clause Title	As mentioned in the Tender	Bidder's Query	BHEL REPLY
1	II B	55	C2	Standard electrical scope between BHEL and Vendor	Both end equipment in vendor scope (Scope of Supply - BHEL, Scope of E&C - Vendor) and one end equipment in vendor scope(Scope of Supply - BHEL, Scope of E&C - BHEL)	Kindly specify the both end equipment & one end equipment.	Bidder to follow technical specification
2	II B	103	6.3.06	Differential Pressure transmitter	For critical control application 3 transmitter shall be provided	Kindly specify critical control application which shall requires 3 transmitter. This has to be specified by BHEL during bidding stage. With our experience we have not used such redundncies in such applications.	The same shall be decided during detailed engineering stage based on supplier process requirement.
3	II B	31	2.1	Datasheet-A	Ozone Generator	Design standard of Ozonator is not mentioned in the tender document. We understand that it will be as per manufacturer's standards. Kindly confirm the same.	As per Manufacture Standard.
4	II B	29	Annexure-II	P&ID	Motive water line - Flow 240 m^3/hr	The mentioned flow seems at the higher side. We request you that the motive water flow shall be as per manufacturer. Kindly confirm.	Bidder to follow technical specification
5	II B	29	Annexure-II	Terminal Point Details	Terminal Point #1	As per terminal point no. 1, line size is 250 NB. According to the velocity given in the tender document (pg 129 of 217) size required is lower. Can we consider required size or is it must to supply 250 NB. Kindly clarify.	Bidder to follow technical specification
6	II B	29	Annexure-II	P&ID	Instrument Air	Kindly provide us the line size for terminal point 4.	Line size of Instrument air is 25 NB.

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7	II B	29	Annexure-II	P&ID	Terminal Point #2	As per terminal point no. 2, pipe dia. 150 NB & common header as 250 NB. As per calculation, we required 250 NB line size. Kindly confirm the line size.	Bidder to follow technical specification
8	II B	9	3.0	Scope of Service	All personnel required during commissioning, trail run and performance guarantee test	Kindly specify the trial run period.	Bidder to decide.
9	II B	9	3.0	Scope of Service	All personnel required during commissioning, trail run and performance guarantee test	Kindly specify the performance guarantee parameter for Ozonation system.	Bidder to follow technical specification
10	II B	126	1.0	Ozone Dosing system	Static mixer shall be also be provided for ozone dosing line.	Kindly provide us the static mixer specification	Shall be as per manufacture standard to meet system requirements.
11	II B	211 & 212	--	Equipment Layout plan & Plot plan	--	Kindly provide us the markup point for Ozone Generator on Equipment Layout plan or Plot plan for better understanding.	Bidder to follow technical specification
12	II B	211 & 212	--	Equipment Layout plan & Plot plan	--	Kindly provide us the piping route for the motive water line and Ozonated water to Condenser which is 300 m long on Equipment Layout plan or Plot plan	The same shall be provided to the successful bidder during detailed engineering stage.
13	II B	211 & 212	--	Equipment Layout plan & Plot plan	--	We would strongly recommend to deliver the gas pipe to the point of use instead of introducing the ozone gas into the water which is transported to the point of use afterwards. If the gas is transferred in the water we face the risk of losing a big portion of the ozone before it even enters the cooling water circle.	Bidder to follow technical specification

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14	II B	211 & 212	--	Equipment Layout plan & Plot plan	--	Kindly provide us the location of Air receiver on Equipment Layout plan or Plot plan.	Bidder to follow technical specification
15	II B	29	Annexure-II	P&ID	Notes: 2) All the control measurement, analyser & interlock shall have redundant sensors, PLC shall be placed in AC Room, UPS supply to be used PLC.	Kindly clarify.	Bidder to follow technical specification
16	II B	29	Annexure-II	P&ID	Notes: 6) All signals used in control & interlocks, trip shall be redundant signals/measurement	Kindly clarify.	Bidder to follow technical specification
17	II B	8 of 217	Scope of Supply	2.2.4	Two nos. (2x100%) Oxygen generator/concentrator per stream (Total 4 nos. for two streams) with all accessories.	Oxygen generator always has two Towers one in working and other in regeneration, as single tower cannot work in isolation, with this understanding if one stream has two oxygen generator that means one stream would have four towers. This means each stream would have two air receiver of 100% capacity and four adsorbption towers of 100% capacity each and 2.5 m3 (min.) Oxygen reciver. Please confirm our understanding is correct.	Bidder to follow technical specification
18	II B	8 of 217	Scope of Supply	2.2.5	Two nos. (2x50%) Oxygen Receiver of 2.5 m3 capacity (minimum) each (one number per stream) with all accessories.	We understand one stream is working and one stream is fully standby. Oxygen Receivers are not interlinked. With this philosophy the capacity of the Oxygen receiver shall be 2 x 100% or both the Oxygen receivers shall be interlinked. Also Surge vessel which plays avitla role in maintaining the consistent purity of the oxygen gas that is fed to the Ozone generator is missing from the BHEL documents. the capacity of the Oxygen receiver has the impact on the surge vessel.	Bidder to follow technical specification