भारत हेवी इलेक्ट्रिकल्स लिमिटेड
(भारत सरकार का उपक्रम)
BHARAT HEAVY ELECTRICALS LIMITED
(A Govt. of India Undertaking)

TCN – 02

Ref: PSER:SCT:SDG-M1310:12:TCN-02 Date: 16-03-2012

Sub	Tender Change Notice (TCN-02).	
Job	DESIGN, ENGINEERING, MANUFACTURING, SUPPLY/ DELIVERY, ERECTION, COMMISSIONING, TRIAL RUN, HANDING OVER TO CUSTOMER ETC OF FUEL OIL HANDLING SYSTEM & MISC. TANKS FOR 2x500 MW UNITS UNIT # 3 & 4) AT SAGARDIGHI STPP, WB.	
Ref	01	Tender No. PSER:SCT:SDG-M1310:12.
	02	BHEL's NIT, vide reference no PSER:SCT:SDG-M1310:2699, dated 14-02-2012.
	03	BHEL's TCN-01, vide reference no PSER:SCT:SDG-M1310:12:TCN-01, dated 05-03-2012.
	04	Other references (if any).

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting offer.

1.0 Due date of submission of offer is extended from 16-03-2012 to 19-03-2012 (14-00 hrs). Bidders are requested to submit their offer by extended due date positively.

2.0 The Clarifications to bidder's queries has been attached.

3.0 Amendment - I to tech. spec of Fuel Oil Handling System (Doc. No. PE-TS-373-166-A001) & misc. tank (Doc. No. PE-TS-373-167-A001) is attached.

4.0 Revised `No deviation certificate' is attached. Bidder to submit `No deviation certificate' as per attached format only.

5.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

ENGINEER (SCT)

Encl
1.0 As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)
POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091
फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

ANNEXURE - II

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	DESIGN, ENGINEERING, MANUFACTURING, SUPPLY/ DELIVERY, ERECTION, COMMISSIONING, TRIAL RUN, HANDING OVER TO CUSTOMER ETC OF FUEL OIL HANDLING SYSTEM & MISC. TANKS FOR 2x500 MW UNITS UNIT # 3 & 4) AT SAGARDIGHI STPP, WB.	
Ref	1.0	Tender No. PSER:SCT:SDG-M1310:12.
	2.0	BHEL's NIT, vide reference no PSER:SCT:SDG-M1310:2699, dated 14-02-2012.
	3.0	BHEL's TCN-01, vide reference no: Ref: PSER:SCT:SDG-M1310:12:TCN-01, Dated 05.03.2012.
	4.0	BHEL's TCN-02, vide reference no: Ref: PSER:SCT:SDG-M1310:12:TCN-02, Dated 16.03.2012.
	5.0	Other references (if any).

Dear Sirs,
With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.
In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.
We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorised
representative of the contractor)

2 x 500 MW SAGARDIGHI TPEP

PRE BID CLARIFICATIONS

Date: 13.03.12

Sl. No.	Clause No./Reference	Description	Clarifications/Confirmations Required	BHEL's Clarification
1	Cl. No.3.Material of Construction, pg. No 42 of 267, VOLUME – II-B, Sec C, Annexure II	a) Fuel Oil Pipe Lines Pipe : Seamless confirming API 5 L Gr. B or ASTM 106 Gr. B	Thickness to be considered is not given. Kindly provide the same	Kindly refer Addendum-I issued along with Pre-Bid Clarification.
2	HFO P&ID, Drg. No. FO-DG-406-M-J2061-01, Rev F LDO P&ID, Drg. No. FO-DG-406-M-J2061-02, Rev F		Drawing is not clearly visible. Kindly arrange the same.	Bidders to necessarily visit site to collect information of existing system before submission of the technical offer.
3	DOC No. PE-DC-373-100-N302, Data sheet for water storage tank, sheet 1 of 2, Vol IIB sec D, Vol-II_M1310, Pg. No. 48 of 68 DOC No. PE-DC-373-100-N302, Data sheet for water storage tank, sheet 2 of 2, Vol IIB sec D, Vol-II_M1310, Pg. No. 49 of 68	Sl. No.10.0. Dimension: 10.8m Dia X 9.5m Height Capacity : 750 Cu.m	Please kindly confirm whether the given net capacity is between High water level and low water level or between High water level and very low water level	Bidders to note that dimensions indicated are minimum. Further kindly refer Addendum-I issued along with Pre-Bid Clarifications. In line with the revised sketch, Net Capacity of tank is the capacity between Very Low Water Level (i.e. 700mm above tank bottom) and High Water Level (i.e. 150mm below the bottom of Overflow Nozzle). Bidders to select tank dimension while meeting above mentioned criteria to achieve net capacity requirement of 750 cum.

4	cl.No. 8.10 of Vol-II. Pg.No. 34 of 267	Heat tracer shall withstand the highest equilibrium pipe temperature that occurs when heat tracer is continuously energized at maximum ambient temperature and at maximum operating voltage. Maximum expected pipe temperature is 65 °C during normal operation and 210 deg C during steam flushing.	Please note operating temperature is only 65 Deg. C. The tracer, NELSON Trace, we offered can be used to maintain temperature up to max. 121 Deg.C & has MAXIMUM INTERMITTENT WITHSTANDS TEMPERATURE of 190 Deg.C. Insulating material (Fluro Polymer) can be withstand the max.temperature upto 250 Deg.C.	Bidders to note that Clause No. 8 of Volume IIB, Section C, Page No. 33 of 267 of Technical Specification hereby stands deleted. Electrical tracing is not required. Entire Fuel Oil handling system will be steam traced. Bidders to prepare and submit their technical offers accordingly.
5	cl.No. 8.4 , d) of Vol-II, sec. C Pg.No. 33 of 268	The heating cables shall be of nickel-plated copper bus wires embedded in a self-regulating polymeric core that controls power output so that the cables can be used directly on the metallic pipes. Bidder will furnish basis of selection of type of core configuration with back up document to the satisfaction the purchaser/ customer.	The heating cables what we offer, are of nickel -plated copper bus wires embedded in monolithic self-regulating conductive core. However we are attaching our SLSR heat tracer catalogue for Purchaser's ready reference.	
6	Cl.No.1.1, f) of Vol - II-B, Sec. C, page no.9 of 267 Instrumentation & Control	DCS based control system for fuel oil handling system.	We understand that DCS system has been already envisaged for FOHS system and need not to consider any PLC/DCS control systems in our scope of supply.	a. No PLC/DCS based system is to be provided by FOHS bidder. b. However, in line with Clause No. 3.0.0 of Volume II B, Section C, Page No. 20 of 267, bidder has to provide Local cum starter panels for the Sump Pumps in Ash Dyke area.

7	Cl.No.3.0.0 of Vol - II-B, Sec. C, page no.20 of 267 Instrumentation & Control	DCS based Control System has been envisaged for Fuel Oil unloading and Storage System. Start permissive & safety interlocks of various drives, as applicable shall be listed by the successful bidder in the detail operation & control philosophy to be submitted during detail engineering for customer's approval.	However we have to be listed out the necessary I/O lists, interlocks and submitted during detail Engg. Purchaser shall confirm.	Necessary I/O Lists, interlocks, Block logic diagram, graphics etc. as required shall be provided by bidder during detail engineering. Further bidder may kindly note that system control philosophy shall be finalised during detail engineering without any commercial implication.
8	pt.no.h,) of DRG//DOCS to be submitted with the bid, VOL-II, Sec C , pg.no. 122 of 267	Electrical Equipment Specification for Fuel oil system duly stamped.	The referred sheet / specs is not available in tender specs/ docs. Purchaser please to be clarified.	Bidder to furnish signed and stamped copy of only the Electrical Scope between BHEL & Vendor (Page No. 130 & 131 of 267 of tender specification)
9	General	DATASHEET of ELECTRICAL HEAT TRACER	The format of heat tracer (SLSR) Datasheet is not available in tender docs. Purchaser please to be arranged the same if it will be readily available. Other wise we shall submit the datasheet in our own format.	Refer reply at Sl. No. 5 above.

Note: Signed Copy of Pre-Bid Clarification and Addendum-I shall be submitted by bidders along with technical offer as a token of acceptance.

2 X 500 MW SAGARDIGHI TPEP

DATE: 13-Mar-12

AMENDMENT – I

TECHNICAL SPECIFICATION OF FUEL OIL HANDLING SYSTEM (DOC. NO. PE-TS-373-166-A001) & MISCELLANEOUS TANKS (DOC. NO. PE-TS-373-167-A001)

S. No.	PAGE NO.	CLAUSE NO.	EXISTING DESCRIPTION	TO BE READ AS
1	7 of 24 of Volume II B, Sec. C (28 of 267)	5 (1)	Type: IB / Ball Float Type/ TD Type for Floor Coil Heater TD type or any other proven type (subject to approval of customer) for other services	Type: IB / Ball Float Type for Floor Coil Heater & Suction Heater TD type or any other proven type (subject to approval of customer) for other services
2	9 of 24 of Volume II B, Sec. C (32 of 267)	7. (5)	Design Pressure: 16 kg/cm^2	Design Pressure: 6 kg/cm^2
3	18 of 24 of Volume II B, Sec. C (41 of 267)	9. 1	Clause Missing	Velocity of Steam, Condensate and water to be considered for Pipe Sizing shall be as per Annexure 'A'.
4	19 of 24 of Volume II B, Sec. C (42 of 267)	9. 3. a)	Clause Missing	Thickness of Fuel Oil pipes shall be in line with Annexure 'B'.
5	49 of 68	-	Sketch of CST	Refer revised sketch (Rev. 01) attached as Annexure 'C'.

ANNEXURE 'A'

Continuation of Specification's Clause No. 9.1

c) **Steam Lines**
- a. Superheated Steam
  - i. Below 50 NB 20-30 m/s
  - ii. Above 50 NB 25-40 m/s
- b. Saturated Steam:
  - i. Below 50 NB: 15-22 m/s
  - ii. Above 50 NB: 20-33 m/s

d) **Water Lines (of all sizes)**
- a. Pump Suction: 1.5 m/s
- b. Pump Delivery: 3.0 m/s

e) **Condensate Lines (of all sizes):** 2 m/s

ANNEXURE 'B'

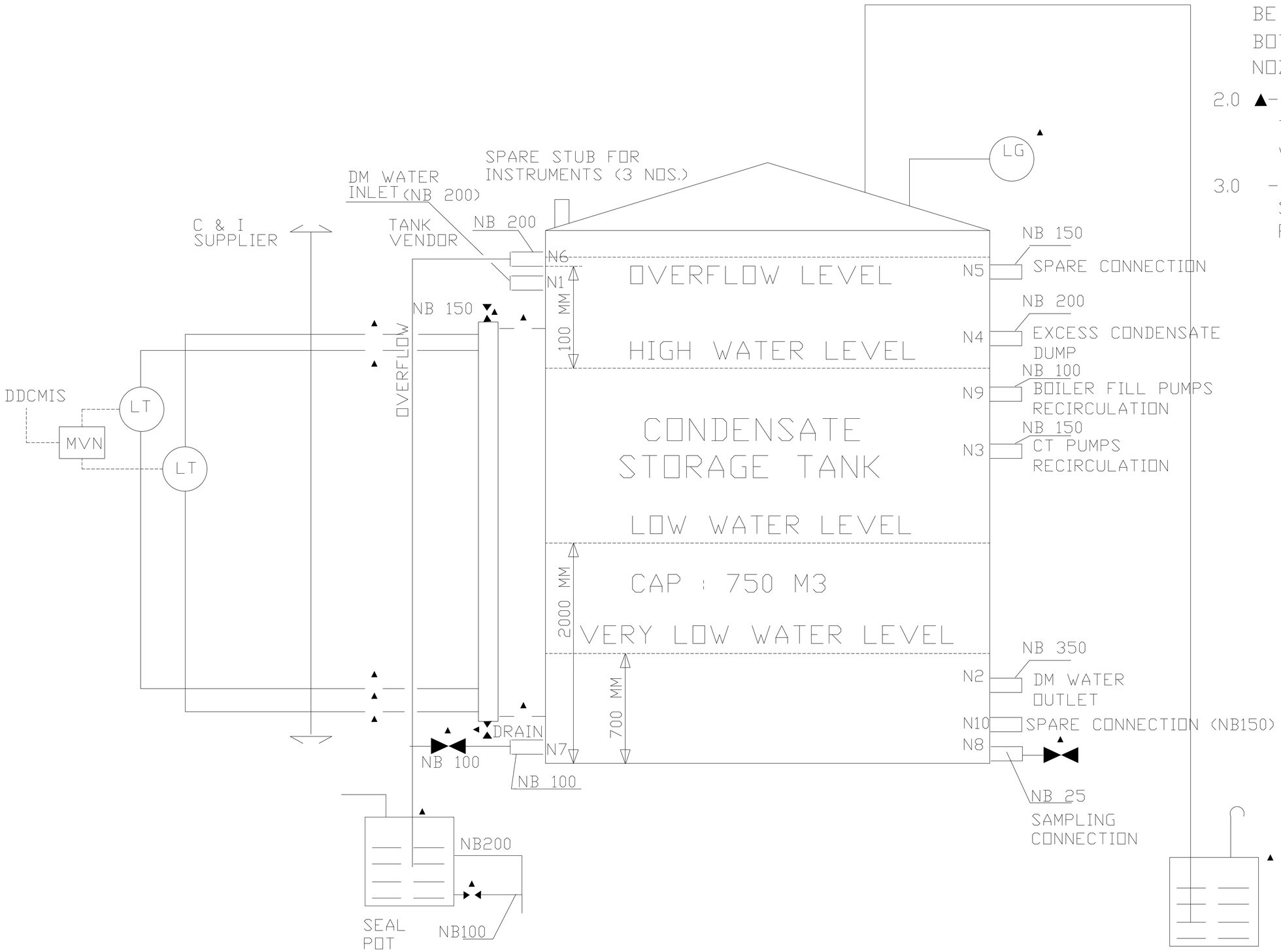
Continuation of Specification's Clause No. 9.3 (a)

Pipes used in the oil lines shall have minimum following thickness:

NB mm (inch)	15 (1/2)	20 (3/4)	25 (1)	40 (1.5)	50 (2)	65 (2.5)	80 (3)	100 (4)	150 (6)
Min Thick mm	2.77	2.87	3.38	3.68	3.91	3.96	3.96	3.96	4.78
NB mm (inch)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	450 (18)			
Min Thick mm	5.56	5.56	6.35	6.35	6.35	7.14			

ANNEXURE 'C'

SKETCH FOR CONDENSATE STORAGE TANK (REV 01)



NOTES:

1.0 HIGH WATER LEVEL SHALL BE MIN. 150 MM BELOW BOTTOM OF OVERFLOW NOZZLE.

2.0 ▲-ITEMS THUS MARKED ARE TO BE SUPPLIED ALONG WITH TANK.

3.0 -NOZZLE ORIENTATION SHALL BE AS PER FINAL LAYOUT