



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 05

Ref: PSER:SCT:KLN-T1966:TCN-05

Date: 24-05-2019

Sub	Tender Change Notice (TCN)- 05.	
Job	Erection, testing, commissioning, handing over, etc of steam turbine & aux, generator & aux, pumps, auxiliaries, and FGD, etc. of Unit#1 & common system including LP Piping at 2x660 MW Maitree STPP, Rampal, Bangladesh.	
Ref	1.0	Tender no PSER:SCT:KLN-T1966:19.
	2.0	BHEL's NIT, vide reference no PSER:SCT:KLN-T1966:7559 Date: 16-05-2019.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:KLN-T1966:19 Date: 18-05-2019
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:KLN-T1966:19 Date: 18-05-2019
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:KLN-T1966:19 Date: 20-05-2019
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:KLN-T1966:19 Date: 24-05-2019
	7.0	Other References, if any.

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

1. Introduction of Technical specification (i) VOL-IF-TCC-TS-GA DRG & (ii) VOL-IF-TCC-TS-MAITREE-00-MA-LU-130101-HWR-04.
2. The clarifications to bidder's queries are attached at Annexure-A.
3. Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
4. All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

Sr.Engr (SCT)

Encl: As Above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

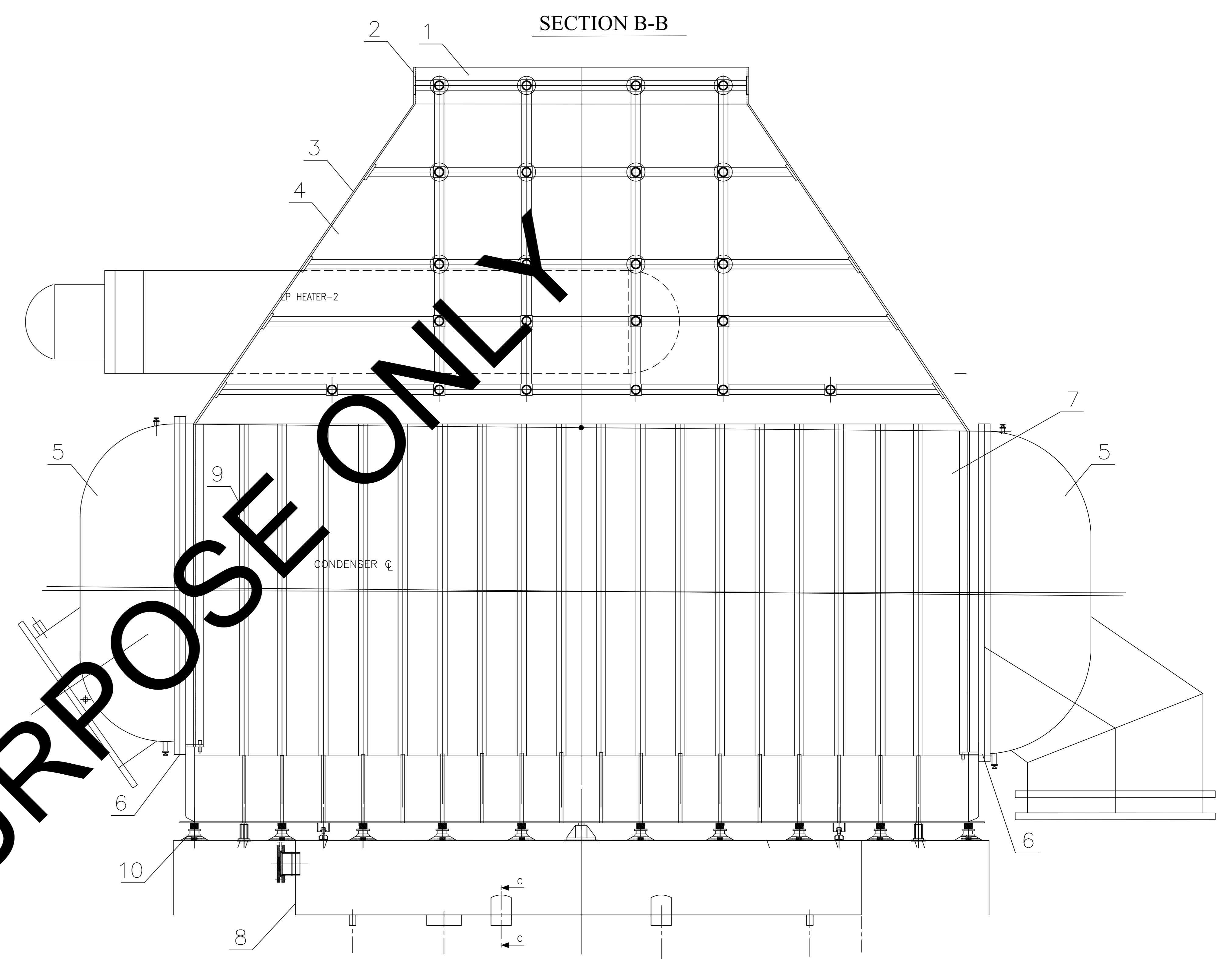
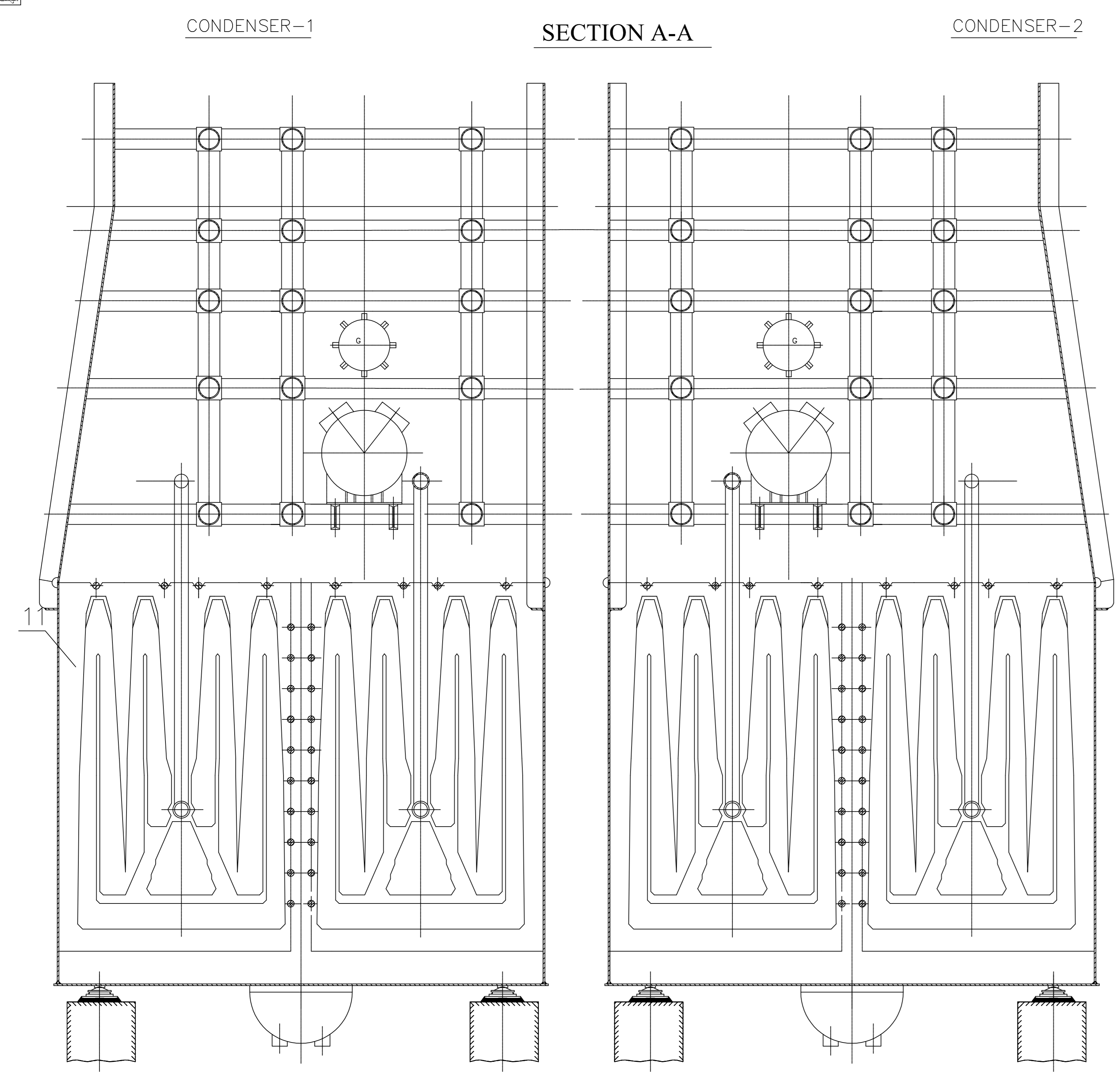
फोन/Phone : बोर्ड/EPABX : (033) 2339 8000

Erection, testing, commissioning, handing over, etc of steam turbine & aux, generator & aux, pumps, auxiliaries, and FGD, etc. of Unit#1 & common system including LP Piping at 2x660 MW Maitree STPP, Rampal, Bangladesh.				
Tender no PSER:SCT:KLN-T1966:19.			TCN-05 (ANNEXURE-A)	
Sl. No	Ref No	Existing Clause	Bidders Query	BHEL'S Clarification
1	4.2-SCT-KLN-T1966-VOL-IF-TCC-TS-1-TG & FGD U#1-R0	General Arrangement Drawings	Kindly provide the general arrangement drawing of Turbine & Condenser.	Refer drawing issued along with TCN-05
2	VOLUME-IF-TCC-CML, (REV-00) -MAJOR TOOLS & PLANTS AND MMRs TO BE DEPLOYED BY SUCCESSFUL BIDDER	Special Hydraulic trailer of suitable capacity to transport items to be handled by successful bidder	Kindly specify the capacity of Special Hydraulic trailer to be deployed at site	The capacity of the trailer shall be suitable to handle consignments as per Weight Schedule of TG package.
3	TCN-04 (ANNEXURE-A) SI No -11	PU coated UG piping of various system (900 NB to 3300 NB) and associated material	The quantity provided in the BOM for the Pipe Size of 3300 MM is 1,177 MT but in the Price Schedule the quantity provided is 100 MT, due to Contradiction in quantity as explained we are unable to conclude our estimate. Kindly provide the actual BOM and also requesting to provide the route drawings of each system.	CW/ACW piping (Carbon Steel) above 800NB Dia. is not in the scope of bidder (Refer clause no. 9.3 of VOL-IF-TCC-TS-1). Hence, the subject pipeline in the BOM is not in the scope of bidder.
4	PRICE BREAK-UP OF SL. NO. 3.0 OF SCH-II	Fire Protection system	It is considered that the Scope of work will be within in the Limits of Turbine hall- Please confirm	Complete FPS piping for the power plant is in the scope of Bidder.

THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

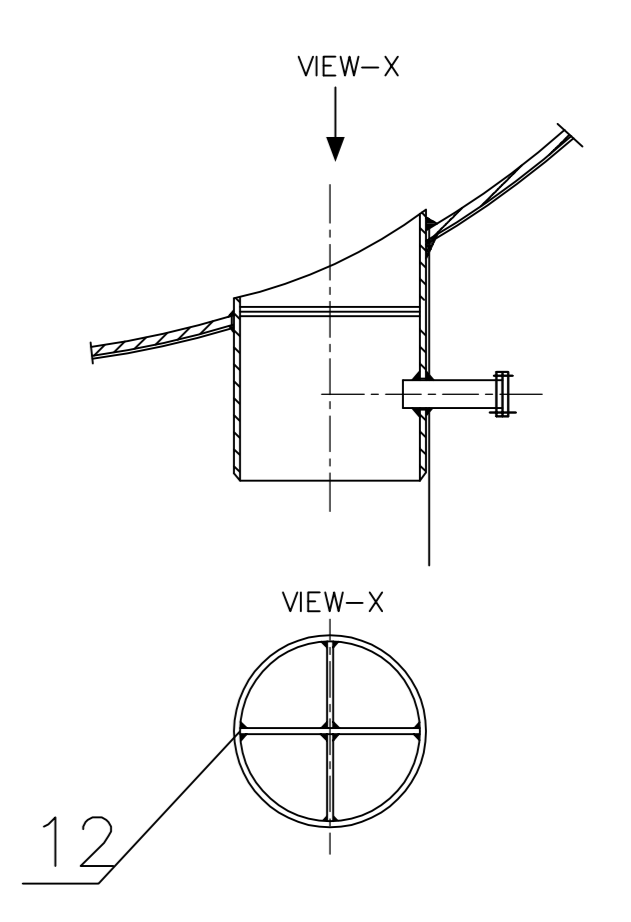
ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.

DRAWING NO. MTR-00-MAG-LU-125001-HWR-4



SECTIONAL VIEW OF CONDENSER 1 & 2

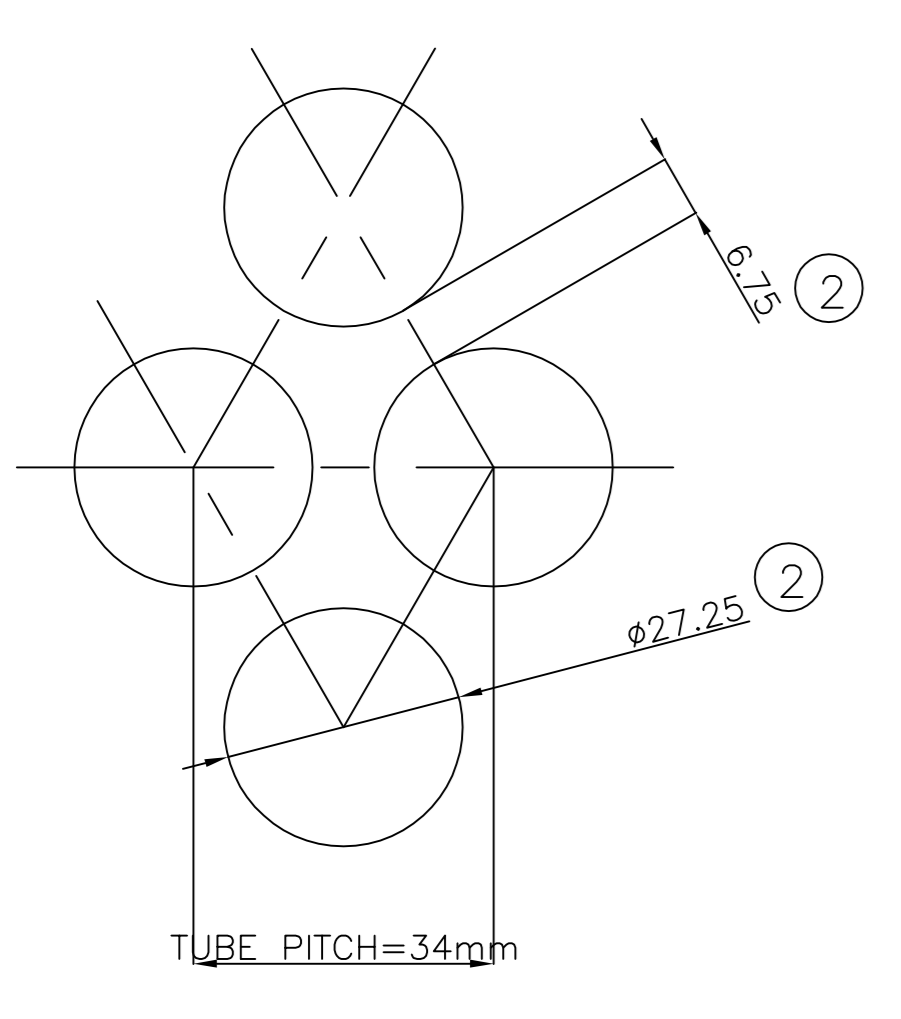
SECTION C-C



ALLOWABLE AND OPERATING FORCES AND MOMENTS ON NOZZLES

Nozzle No.	Operating Force (kgf)	Operating Moment (kgf-m)	Allowable Force (kgf)	Allowable moment (kgf-m)
Nozzle 1 (Condenser-1 Inlet)	31267.79	70743.39	322470.9	117306.2
Nozzle 2 (Condenser-1 Inlet)	34128.68	78279.15	322470.9	117306.2
Nozzle 3 (Condenser-1 Outlet)	19709.51	42196.36	322470.9	117306.2
Nozzle 4 (Condenser-1 Outlet)	13837.98	47555.6	322470.9	117306.2
Nozzle 5 (Condenser-2 Inlet)	18621.5	40622.96	322470.9	117306.2
Nozzle 6 (Condenser-2 Inlet)	15956.55	40042.98	322470.9	117306.2
Nozzle 7 (Condenser-2 Outlet)	29546.3	70052.16	322470.9	117306.2
Nozzle 8 (Condenser-2 Outlet)	31805.4	77624.2	322470.9	117306.2

TUBE LAYOUT ARRANGEMENT



IT.NO.	ITEM DESCRIPTION	MATERIAL OF CONSTRUCTION
1	STEAM INLET CONNECTION	NA
2	CONDENSER UPPER DOMEWALL	SA/IS 2062, GR. E250 BR
3	CONDENSER LOWER DOMEWALL	SA/IS 2062, GR. E250 BR
4	DOME INTERNAL STIFFENING	ASTM A106, Gr.B
5	CONDENSER WATER BOX	SA/IS 2062, GR. E250 BR, IS 2002, GR. 2
6	CONDENSER WATER CHAMBER	SA/IS 2062, GR. E250 BR, IS 2002, GR. 2
7	CONDENSER SIDEWALL	SA/IS 2062, GR. E250 BR
8	HOTWELL	SA/IS 2062, GR. E250 BR
9	TUBE SUPPORT PLATES AND SHELL INTERNALS	SA/IS 2062, GR. E250 BR
10	PTFE SOLID BEARING	PTFE
11	TUBESHEET	SA 516, Gr.70+TI CLADDING (6 mm THICKNESS)
12	ANTI VORTEX BAFFLE	SA/IS 2062, GR. E250 BR

4	22.6.18	T.BANSAL	T.BANSAL	N.P.	REVISED AS PER CUSTOMER COMMENTS. REST CHANGES MARKED AS ④
3	13.4.18	T.BANSAL	T.BANSAL	R.BANSAL	REVISED AS PER CUSTOMER COMMENTS. REST CHANGES MARKED AS ③
2	16.02.18	T.BANSAL	T.BANSAL	R.BANSAL	REVISED AS PER CUSTOMER COMMENTS. REST CHANGES MARKED AS ②
1	25.11.17	T.BANSAL	T.BANSAL	R.BANSAL	CHANGES AS MARKED ①

DATE ALTERED CHECKED APPROVED NOTE

PROJECT: 2x660MW MAITREE SUPER THERMAL POWER PROJECT, RAMPAL, BANGLADESH (EPC MAIN PLANT PACKAGE)

OWNER CONSULTANT: **FICHTNER** M/s FICHTNER GmbH & Co KG, Stuttgart, GERMANY

OWNER: BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT.) LIMITED, BANGLADESH

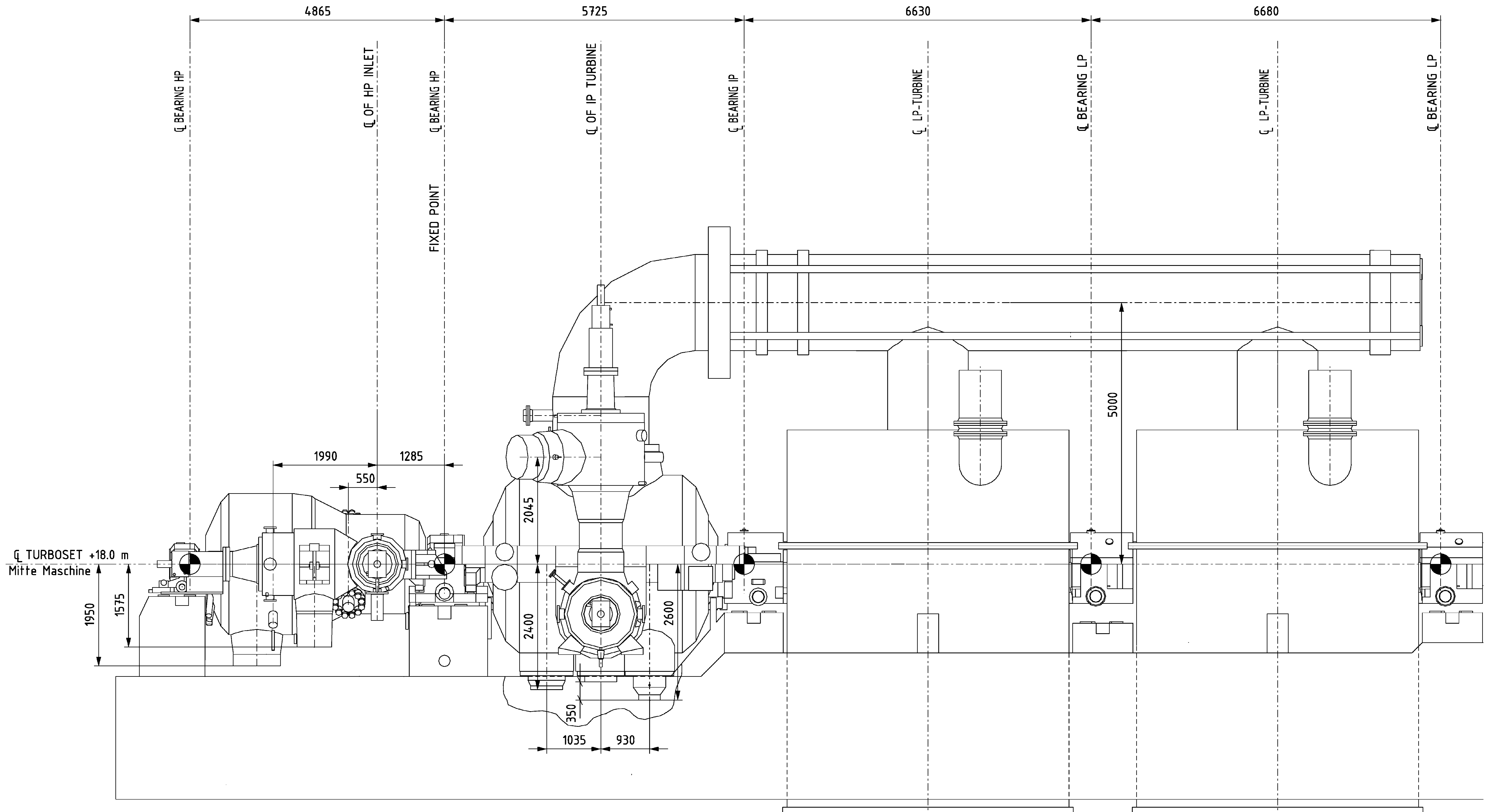
BHARAT HEAVY ELECTRICALS LTD, HEER, RANIPUR, HARIDWAR

SCALE: N.T.S. SHEET 3 OF 3

TITLE: CONDENSER ASSEMBLY - GA AND CROSS SECTION WITH LOAD DATA

REV. DATE ALTERED CHECKED

00005-00001-0



Weight of HP Turbine Complete: ~122 Ton
 Weight of IP Turbine Complete: ~170 Ton
 Weight of Bladed LP Rotor: ~57 Ton

Critical Speed of HP Rotor: 1836 RPM
 Critical Speed of IP Rotor: 1668 RPM
 Critical Speed of LP Rotor: 1416 RPM

GMS No. C.B.O.M.		STATUS OF PIP		TYPE OF PRODUCT		STEAM TURBINE	
APPROV	DATE	APPROV	DATE	OR	NAME OF CUSTOMER/PROJECT	2X660MW BHPCL MAITREE PROJECT	
GRADE OF UNTOLD DIM				NAME			
MCG-C/MF AA0230208				BHPCL			
WELDING-A/B/C/D // AA0621104				BHARAT HEAVY ELECTRICALS LTD.			
GAS CUTTING-T3AA0621101				RANIPUR, HARDWAR			
REV	DATE	ALTERED	CHECKED	REV	DATE	ALTERED	CHECKED
DEPT		STE		SCALE		WEIGHT (KG)	
CODE 4011						0-10000-50000	
TITLE: GENERAL ARRANGEMENT				REF. TO ASSY. DRG.			
				0-10000-50000			
				DRAWING NO.			
				0-10000-50000			
				SHEET No. 01			
				No. OF SHEETS 01			

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	Erection, testing, commissioning, handing over, etc of steam turbine & aux, generator & aux, pumps, auxiliaries, and FGD, etc. of Unit#1 & common system including LP Piping at 2x660 MW Maitree STPP, Rampal, Bangladesh.	
Ref	1.0	Tender no PSER:SCT:KLN-T1966:19.
	2.0	BHEL's NIT, vide reference no PSER:SCT:KLN-T1966:7559 Date: 16-05-2019.
	3.0	BHEL's TCN-01, vide reference no PSER:SCT:KLN-T1966:19 Date: 18-05-2019
	4.0	BHEL's TCN-02, vide reference no PSER:SCT:KLN-T1966:19 Date: 18-05-2019
	5.0	BHEL's TCN-03, vide reference no PSER:SCT:KLN-T1966:19 Date: 20-05-2019
	6.0	BHEL's TCN-04, vide reference no PSER:SCT:KLN-T1966:19 Date: 24-05-2019
	7.0	BHEL's TCN-05, vide reference no PSER:SCT:KLN-T1966:19 Date: 24-05-2019
	8.0	All other pertinent issues till date.

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/uploaded offer/documents in accordance with tender instructions with acceptance of the terms & conditions of the tender by us and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)