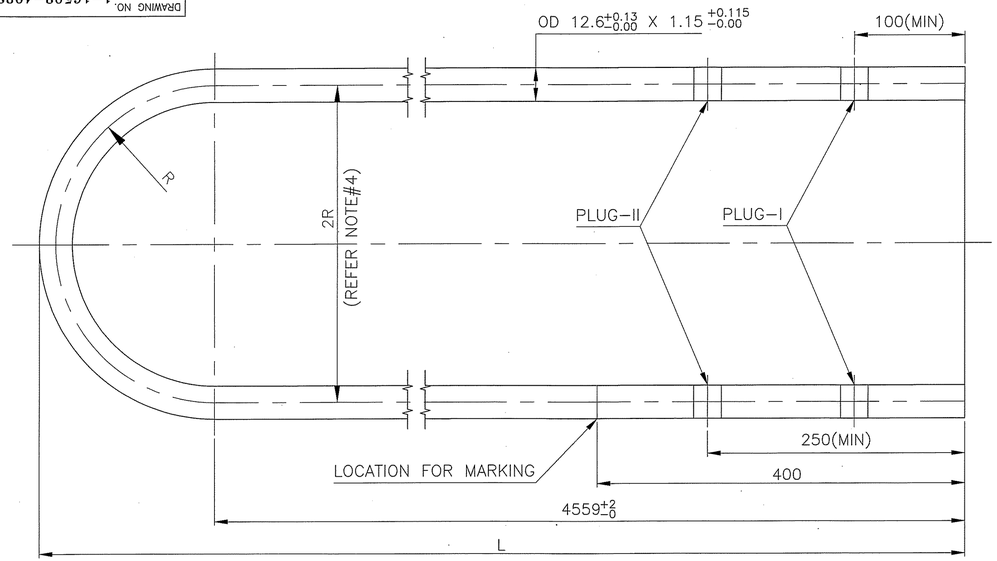
FIRST ANGLE PRJECTION

ALL DIMENSIONS ARE IN MM

DRAWING NO. 1-16503-40835



TECHNICAL REQUIREMENTS (TR) :−

1) TUBE MATERIAL SEAMLESS INCOLOY−800 AS PER SB163UNS8800.
2) TUBE SHALL BE SUPPLIED MEETING THE REQUIREMENT AS PER TECH. SPEC. DOC. NO. BHEL/NPCIL/30599/INCOLOY−800 TUBES/CDE−19−3410.
3) TOLERANCE ON TUBE BENDS.
   a) THINNING ALLOWANCE : 10% (MAX.) OF THE MINIMUM WALL THICKNESS.
   b) OVALITY: 5% (MAX.)
4) TOLERANCE ON LEG SPACING:−
   a) FOR BEND RADIUS(R) LESS THAN 220 : ±1mm.
   b) FOR BEND RADIUS(R) 220<R<450 : ±1.6mm.
5) EACH TUBE SHALL BE MARKED BY ELECTRO−ETCHING OR ANY OTHER SUITABLE PERMANENT MARKING METHOD AT APPROX. 400mm FROM EACH END. MARKING SHOULD CONTENT TUBE IDENTIFICATION NO. ALONG WITH TUBE OD X TK X STRAIGHT LEG AND MATERIAL OF CONSTRUCTION.
6) EACH BEND TUBE SHALL BE CHECKED FOR PASSAGE BY BALL TEST USING BALL SIZE (9.2+0/−0.1) AS PER NPCIL APPROVED BALL TEST PROCEDURE.
7) EACH TUBE SHALL BE HYDROSTATICALLY TESTED AT AS PER TECH. SPEC. MENTIONED IN TR # 2.
8) THE TUBES SHALL BE FREE FROM KINKS,BENDS, LOCAL DISTORTIONS ETC.
9) IN THE EVENT THAT CERTAIN REQUIREMENTS OF THE CODE/STANDARD LISTED IN DRG. & BHEL TECH. SPEC. CONFLICTS, THE REQUIREMENTS WHICH ARE MORE STRINGENT SHALL GOVERN.
10) VENDOR TO INSERT 4NOS. TUBE PLUGS 2 NOS. ON EACH STRAIGHT LEG AS SHOWN. VENDOR TO SUPPLY PLUG REMOVAL TOOL WITH SUPPLY OF U−TUBES AND PROCEDURE ALONG WITH SUPPLY.
11) QUANTITY MENTIONED IN BILL OF MATERIAL IS FOR ONE TUBE BUNDLE ASSEMBLY ONLY

TUBE IDENTIFICATION NO.	LENGTH L	MEAN BEND RADIUS "R"	VAR01 (QTY)	VAR00 (QTY)	REMARKS (DEVELOP LENGTH)	VAR. NO.	ITEM NO.	DESCRIPTION	STD	DRAWING NO.	IT.NO. / VAR.	MATL. CODE / MATL. SPCN.	CAT.	UNIT WT. / QTY.	CS	ZONE
3331−HX−1−265−R25	4826.3	261	2	1	9938.0		25	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.32		
3331−HX−1−264−R24	4817.3	252	5	4	9909.7		24	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.28		
3331−HX−1−263−R23	4808.3	243	8	7	9881.4		23	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.27		
3331−HX−1−262−R22	4799.3	234	7	6	9853.1		22	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.26		
3331−HX−1−261−R21	4790.3	225	10	9	9824.9		21	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.25		
3331−HX−1−260−R20	4781.3	216	11	10	9796.6		20	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.24		
3331−HX−1−259−R19	4772.3	207	12	11	9768.3		19	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.23		
3331−HX−1−258−R18	4763.3	198	13	12	9740.0		18	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.22		
3331−HX−1−257−R17	4754.3	189	12	11	9711.9		17	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.21		
3331−HX−1−256−R16	4745.3	180	13	12	9683.5		16	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.20		
3331−HX−1−255−R15	4736.3	171	14	13	9655.2		15	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.19		
3331−HX−1−254−R14	4727.3	162	15	14	9626.9		14	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.18		
3331−HX−1−253−R13	4718.3	153	14	13	9598.7		13	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.17		
3331−HX−1−252−R12	4709.3	144	15	14	9570.4		12	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.16		
3331−HX−1−251−R11	4700.3	135	16	15	9542.1		11	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.16		
3331−HX−1−250−R10	4691.3	126	15	14	9513.8		10	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.15		
3331−HX−1−249−R9	4682.3	117	16	15	9485.6		09	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.14		
3331−HX−1−248−R8	4673.3	108	17	16	9457.3		08	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.13		
3331−HX−1−247−R7	4664.3	99	16	15	9429.0		07	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.12		
3331−HX−1−246−R6	4655.3	90	17	16	9400.7		06	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.11		
3331−HX−1−245−R5	4646.3	81	16	15	9372.5		05	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.10		
3331−HX−1−244−R4	4637.3	72	17	16	9344.2		04	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.09		
3331−HX−1−243−R3	4628.3	63	18	17	9315.9		03	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.08		
3331−HX−1−242−R2	4619.3	54	17	16	9287.6		02	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	Kg.	3.07		
3331−HX−1−241−R1	4610.3	45	15	14	9259.4		01	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	A Kg.	3.06		

COPY RIGHT AND CONFIDENTIAL
The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly to the detriment of the company.

UNLESS OTHERWISE STATED :−
ALL DIMENSIONS ARE IN mm.
SURFACE FINISH TO BE 1.6/ OR BETTER.
REMOVE ALL BURRS.
REMOVE ALL EXTERNAL SHARP CORNERS AND EDGES BY CHAMFERING TO 0.15/0.40 X 45°
ROUND ALL INTERNAL CORNER AND EDGES TO R 0.15/0.40

TOLERANCE ON RADII AND CHAMFERS (IS:2102)

RADII AND CHAMFERS	0.5−3	3−6	6−30
TOLERANCE	± 0.2	± 0.5	± 1.0

न्यूक्लियर पावर कार्पोरेशन ऑफ इंडिया लिमिटेड
NUCLEAR POWER CORPORATION OF INDIA LTD.
अनुमोदित / APPROVED
☐ टिप्पणी के अनुसार अनुमोदित / APPROVED AS NOTED
☐ संशोधन के साथ प्रस्तुत करें / रोकें ।
PROCEED WITH / HOLD FABRICATION
☐ अंतिम ट्रांसपेरेन्सी के हेतु भेजें ।
SEND FINAL TRANSPARENCIES & PRINTS
☐ संशोधन करें एवं अनुमोदन के लिए पुनः प्रस्तुत करें।
REVISE AND RESUBMIT FOR APPROVAL

जाँचकर्ता CHECKED BY	समीक्षाकर्ता REVIEWED BY	अनुमोदन कर्ता APPROVED BY
5.4.19	5/4/19	5/4/19

अंतिम अनुमोदन कार्य का अनुमोदन आपूर्तिकर्ता को विनिर्देशों के अनुसार आपूर्ति के उत्तरदायित्व से मुक्त नहीं करता ।
The Approval of the work to be done does not relieve the supplier of responsibility of supply according to specifications.

NUCLEAR POWER CORPORATION OF INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)
PROJECT : GORAKHPUR HARIYANA ANU VIDHYUT PARIYOJANA 1&2 (700 MWe)
NPCIL PURCHASE ORDER NO. : CMM/FTP/10−33−1−1149/e−PO/30599, DATED 25.01.2019
NPCIL DRAWING NO : GHAVP−1&2/33311/2009/DD REV.00

ADDITIONAL INFORMATION
DRG. LIST : 4−16503−40357
STATUS OF DRAWING
W/O. NO. : 18085/86−W−04801
DISTRIBUTION OF PRINTS
CDE − 1 HCM − 4 FWM − 4

उत्पाद का प्रकार या ग्राहक/परियोजना का नाम
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT
REGENERATIVE COOLER (3331−HX−1)

भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल
BHARAT HEAVY ELECTRICALS LTD. BHOPAL

	नाम/ NAME	हस्ता./SIGN	दिनांक/DATE	पे.रि. पी. संख्या NO. OF VAR.
बनाया DRN.	विजय कुमार कुशवाहा		06/03/2019	
जाँचा CHKD.	नागेन्द्र सिंह		07/03/2019	
अनुमोदित APPD.	ए.के.नाहौर		08/03/2019	

REV.	DATE		
01	22/03/19	ALTERED	
		CHECKED	
		APPROVED	
ZONE	DRAWING REVISED BASED ON NPCIL COMMENTS DTD. 15/03/2019.		

विभाग DEPT. CDE | कोड CODE 411 | उन.टा. माप की त्रेणी UNTOL. DIMS. GR. M AA0203208 | अनुपात SCALE – | भार (कि.ग्रा) WEIGHT (K.G.) – | उसे. ड्राईंग का संदर्भ REF. TO ASSY. DRG. 1−16503−40850 | मद क्र. ITEM NO. – | मद संख्या NO. OF ITEM –

शीर्षक/ TITLE
U−TUBES

ड्राईंग क्र./DRAWING NO. 1−16503−40835 | पुनः/ REV. 01

पृष्ठ क्र./ SHT. NO. 01 | पृष्ठों की संख्या/ NO. OF SHT. 01

FORMAT SIZE A1