FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM

DRAWING NO. 1-16503-40839

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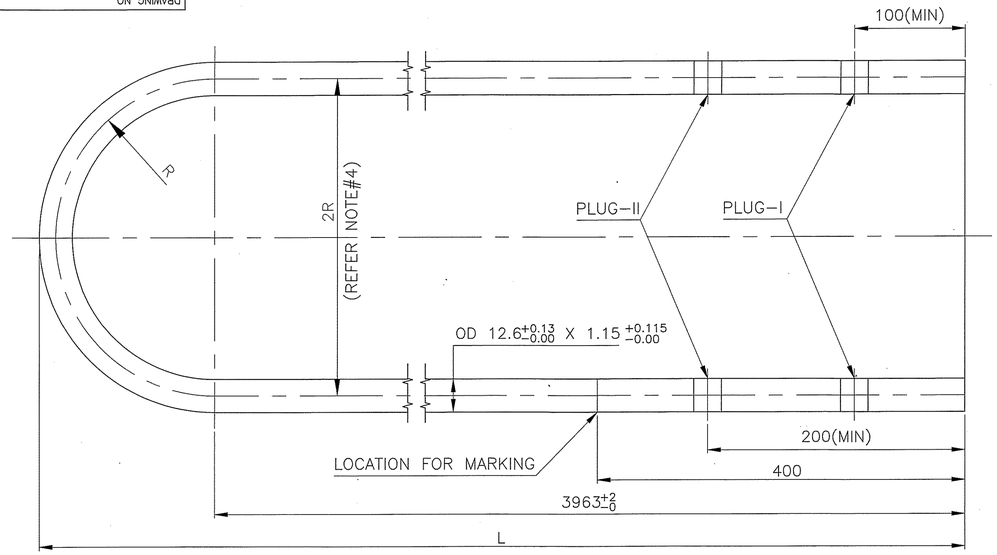

TECHNICAL REQUIREMENTS (TR) :–

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 PROCEDURE.
7) EACH TUBE SHALL BE HYDROSTATICALLY TESTED 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 4 NOS. 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.	MATL. CODE	MATL. SPCN.	UNIT CL A	UNIT WT.	QTY.	GS	ZONE
3337–HX–1,2–208–R9	4073.3	104	11	10	8252.7		09	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.73			
3337–HX–1,2–208–R8	4065.3	96	11	10	8227.6		08	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.72			
3337–HX–1,2–208–R7	4057.3	88	13	12	8202.5		07	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.72			
3337–HX–1,2–208–R6	4049.3	80	13	12	8177.3		06	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.71			
3337–HX–1,2–208–R5	4041.3	72	13	12	8152.2		05	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.70			
3337–HX–1,2–208–R4	4033.3	64	13	12	8127.1		04	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.69			
3337–HX–1,2–208–R3	4025.3	56	13	12	8101.9		03	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.68			
3337–HX–1,2–208–R2	4017.3	48	13	12	8076.8		02	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800		Kg.	2.68			
3337–HX–1,2–208–R1	4009.3	40	15	14	8051.7		01	TUBE 12.6 ODx1.15MM				B.O. SB163UNS8800	A	Kg.	2.67			

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 की आवश्यकता है / PROCEED WITH FOLLOW FABRICATION
☐ अंतिम ट्रांसपेरेन्सी एवं प्रतियाँ भेजें । SEND FINAL TRANSPARENCIES & PRINTS
☐ संशोधन करें एवं अनुमोदन के लिए पुनः प्रस्तुत करें। REVISE AND RESUBMIT FOR APPROVAL

अभिप्रमाणित CHECKED BY	परीक्षणकर्ता REVIEWED BY	अनुमोदन कर्ता APPROVED BY
3.4.19	9/4/19	9/4/19

मेसर्स आपोजोडे कार्य का अनुमोदन आपूर्तिकर्ता की जिम्मेदारियों से स्पष्टतया 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.

ADDITIONAL INFORMATION
DRG. LIST : 4–16503–40360/361
STATUS OF DRAWING
W/O. NO. : 18085/86–W–04801
DISTRIBUTION OF PRINTS
CDE – 1 HCM – 4 FWM – 4

REV.	DATE			
01	22/03/19	ALTERED	विक्रम कुमार कुशवाहा	
		CHECKED	नागेन्द्र सिंह	
		APPROVED	ए.के.माहौर	

ZONE: DRAWING REVISED BASED ON NPCIL COMMENTS DTD. 15/03/2019.

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&2/33371/2008/DD REV.00

उत्पाद का प्रकार या ग्राहक/परियोजना का नाम TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT: FUEL M/C RECIRCULATION & RETURN COOLER (3337–HX–1,2)

भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल
BHARAT HEAVY ELECTRICALS LTD. BHOPAL

	नाम/ NAME	हस्ता/SIGN	दिनांक/DATE	रे.वि. पी संख्या NO. OF VAR.
कृताकृ DRN.	विक्रम कुमार कुशवाहा		06/03/2019	
परीक्षा CKD.	नागेन्द्र सिंह		07/03/0019	
अनुमोदित APPD.	ए.के.माहौर		08/03/2019	

विभाग DEPT.	उत्पाद SCALE	भार (कि.ग्रा) WEIGHT (K.G)	उसे. ड्राईंग का संदर्भ REF. TO ASSY. DRG.	मद क्र. ITEM NO.	मद संख्या NO. OF ITEM
CDE	–	–	1–16503–40857/859	–	–

फाइल CODE	उन.टन. नाप की ऐकाई UNTOL. DIMS. GR.	
411	M	AA0203208

शीर्षक/ TITLE: U–TUBES

ड्राईंग क्र./DRAWING NO.: 1–16503–40839
पृष्ठ/ REV.: 01
पृष्ठ क्र./ SHT. NO. 01 पृष्ठों की संख्या/ NO. OF SHT. 01

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