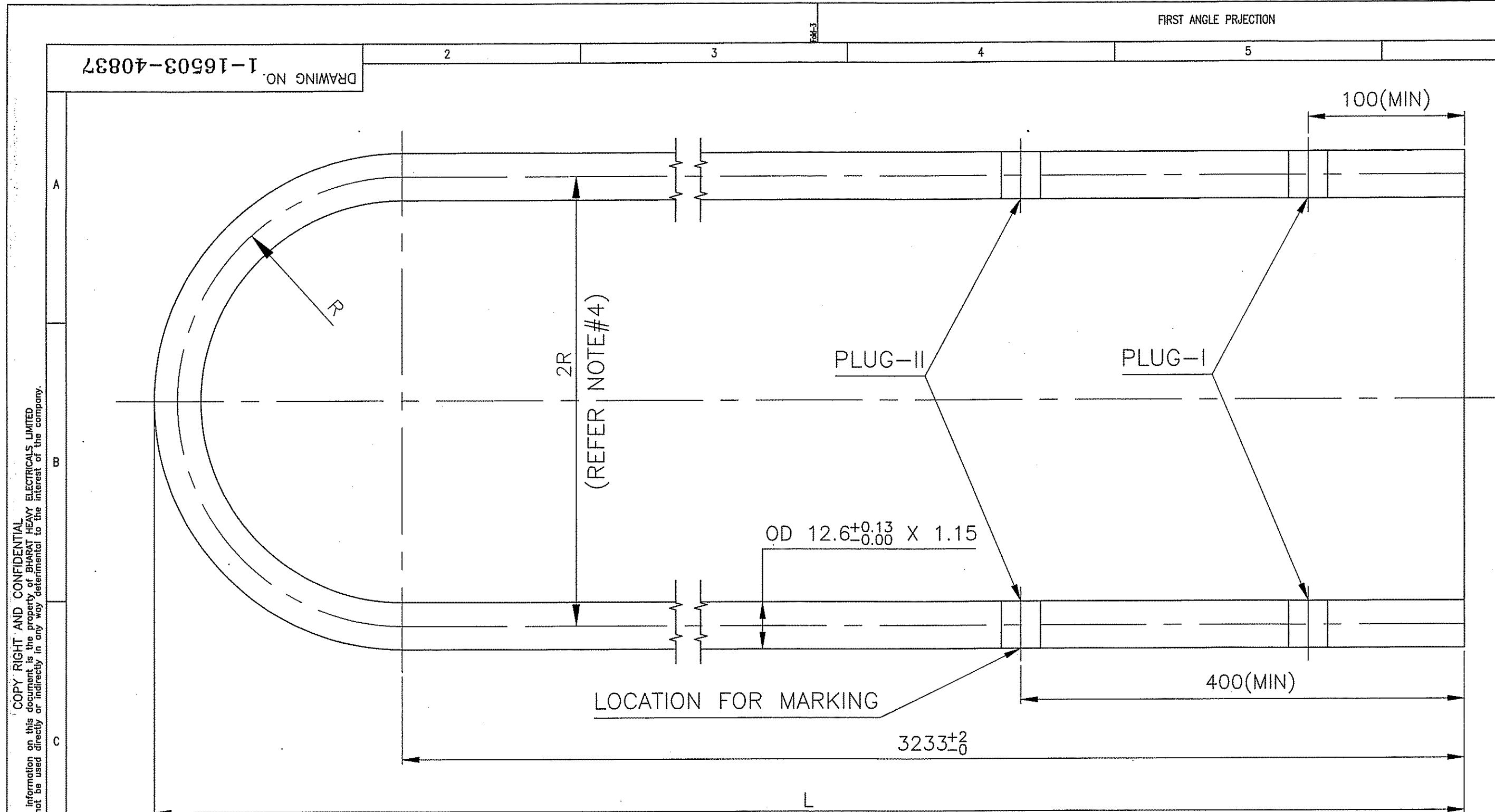




TECHNICAL REQUIREMENTS (TR) :-

- 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 : $\pm 1\text{mm}$.
 - b) FOR BEND RADIUS(R) $220 < R < 450$: $\pm 1.6\text{mm}$.
- 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

UNLESS OTHERWISE STATED :-

ALL DIMENSIONS ARE IN mm.
SURFACE FINISH TO BE $\sqrt{1.6}$ OR BETTER.
REMOVE ALL BURRS.
REMOVE ALL EXTERNAL SHARP CORNER
AND EDGES BY CHAMFERING TO 0.15
ROUND ALL INTERNAL CORNER AND ED

TOLERANCE ON RADII AND CHAMFERS (IS:2102)

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

3341-HX-1,2,3,4-R32	3563.3	324	21	20	7483.9	32	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.47	
3341-HX-1,2,3,4-R31	3554.3	315	24	23	7455.6	31	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.47	
3341-HX-1,2,3,4-R30	3545.3	306	25	24	7427.3	30	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.46	
3341-HX-1,2,3,4-R29	3536.3	297	24	23	7399.0	29	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.45	
3341-HX-1,2,3,4-R28	3527.3	288	25	24	7370.8	28	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.44	
3341-HX-1,2,3,4-R27	3518.3	279	26	25	7342.5	27	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.43	
3341-HX-1,2,3,4-R26	3509.3	270	25	24	7314.2	26	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.42	
3341-HX-1,2,3,4-R25	3500.3	261	26	25	7286.0	25	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.41	
3341-HX-1,2,3,4-R24	3491.3	252	27	26	7257.7	24	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.40	
3341-HX-1,2,3,4-R23	3482.3	243	26	25	7229.4	23	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.39	
3341-HX-1,2,3,4-R22	3473.3	234	27	26	7201.1	22	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.38	
3341-HX-1,2,3,4-R21	3464.3	225	28	27	7172.9	21	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.37	
3341-HX-1,2,3,4-R20	3455.3	216	27	26	7144.6	20	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.36	
3341-HX-1,2,3,4-R19	3446.3	207	28	27	7116.3	19	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.35	
3341-HX-1,2,3,4-R18	3437.3	198	29	28	7088.0	18	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.34	
3341-HX-1,2,3,4-R17	3428.3	189	28	27	7059.8	17	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.33	
3341-HX-1,2,3,4-R16	3419.3	180	29	28	7031.5	16	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.32	
3341-HX-1,2,3,4-R15	3410.3	171	30	29	7003.2	15	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.32	
3341-HX-1,2,3,4-R14	3401.3	162	29	28	6974.9	14	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.31	
3341-HX-1,2,3,4-R13	3392.3	153	26	25	6946.7	13	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.30	
3341-HX-1,2,3,4-R12	3383.3	144	29	28	6918.4	12	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.29	
3341-HX-1,2,3,4-R11	3374.3	135	30	29	6890.1	11	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.28	
3341-HX-1,2,3,4-R10	3365.3	126	31	30	6861.8	10	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.27	
3341-HX-1,2,3,4-R9	3356.3	117	30	29	6833.6	09	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.26	
3341-HX-1,2,3,4-R8	3347.3	108	31	30	6805.3	08	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.25	
3341-HX-1,2,3,4-R7	3338.3	99	30	29	6777.0	07	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.24	
3341-HX-1,2,3,4-R6	3329.3	90	31	30	6748.7	06	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.23	
3341-HX-1,2,3,4-R5	3320.3	81	30	29	6720.5	05	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.22	
3341-HX-1,2,3,4-R4	3311.3	72	31	30	6692.2	04	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.21	
3341-HX-1,2,3,4-R3	3302.3	63	30	29	6663.9	03	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.20	
3341-HX-1,2,3,4-R2	3293.3	54	31	30	6635.6	02	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.19	
3341-HX-1,2,3,4-R1	3284.3	45	32	31	6607.4	01	TUBE 12.6 Odx1.15MM			B.O.	Kg	2.18	
TUBE IDENTIFICATION NO.	LENGTH L	MEAN BEND RADIUS "R"	VAR01 (QTY)	VAR02 (QTY)	REMARKS (DEVELOP LENGTH)	VAR. NO. ITEM NO.	DESCRIPTION	DRAWING NO.	IT.NO. 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	MATL. CODE SPCL. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100	UNIT WT. QTY.		

न्यूक्लियर पावर कॉर्पोरेशन ऑफ इंडिया लिमिटेड
NUCLEAR POWER CORPORATION OF INDIA LTD.

☒ **APPROVAL / APPROVED**

☐ **REVISION / REVISIONS REQUIRED**

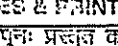
☐ **REWORK / REWORK REQUIRED**

☐ **REJECT / REJECTED**

☐ **PROCEED WITH/ HOLD FABRICATION**

☐ **डॉक्यूमेंट ट्रांस्पारेन्सी के लिए निर्देश जारी करें**
SEND FINAL TRANSPARENCIES & PRINTS

☐ **संशोधन कार्य एवं अनुमति के लिए निम्न प्रस्ताव करें**
REVISE AND RESUBMIT FOR APPROVAL

जोखाना CHECKED BY	समीक्षाकर्ता REVIEWED BY	अनुमोदनकर्ता APPROVED BY
 9.4.11	 9.4.11	 9.4.11

विश्व आर्थिक संकट का अनुमोदन अनुमति को भी विधिवत ही के अनुसार
 आगुनी के उपस्थिति में ही प्राप्त नहीं करेगा।
 The Approval of the world economic crisis will not relieve the supplier of
 responsibility of supply according to Specifications.

NUCLEAR POWER CORPORATION OF INDIA LIMITED (A GOVERNMENT OF INDIA ENTERPRISE)																
PROJECT : CORAKHPUR HARYANA AND VIDRUTY PARIYOJANA 1&2 (700 Mw) NPCIL PURCHASE ORDER NO. : GMM/ETP/10-33-1149-E/PO/30599, DATED 25.01.2019 NPCIL DRAWING NO. : GHAEPV-1&2/33411/2005/DD REV.00																
3. उत्पाद का प्रकार या वाहक/परियोजना का नाम TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		SHUT DOWN COOLER (3341-HX-1,2,3,4)														
भारत हेवी इलेक्ट्रिकल्स लिमिटेड भारत हेवी इलेक्ट्रिकल्स लिमिटेड BHARAT HEAVY ELECTRICALS LTD. BHOPAL		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>नाम / NAME</th> <th>हस्ताक्षर / SIGN</th> <th>दिनांक / DATE</th> <th>पद /</th> </tr> <tr> <td>विकास प्रमुख नवागोष्ठा शर्मा</td> <td>(Signature)</td> <td>06/03/2019</td> <td>सह-निर्देशक 07/03/2019</td> </tr> <tr> <td>प्रमुख वास्तुशिल्प सुखदेव माहेश्वरी</td> <td>(Signature)</td> <td>06/03/2019</td> <td>निर्देशक 07/03/2019</td> </tr> </table>			नाम / NAME	हस्ताक्षर / SIGN	दिनांक / DATE	पद /	विकास प्रमुख नवागोष्ठा शर्मा	(Signature)	06/03/2019	सह-निर्देशक 07/03/2019	प्रमुख वास्तुशिल्प सुखदेव माहेश्वरी	(Signature)	06/03/2019	निर्देशक 07/03/2019
नाम / NAME	हस्ताक्षर / SIGN	दिनांक / DATE	पद /													
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प्रमुख वास्तुशिल्प सुखदेव माहेश्वरी	(Signature)	06/03/2019	निर्देशक 07/03/2019													
डिजाइन DEPT. CODE 411		ड्राफ्टिंग, माप की श्रेणी UNTOL. DIMS. GR. M. MA0203208		उच्चता SCALE 1:1												
शीटिंग / TITLE		मूल (C.S.) WEIGHT (KGS.)		ड्राइंग नं. और या संदर्भ REF. TO ASSY. DRG. 1-16503-40854												
1-16503-40837		ड्राइंग नं. / DRAWING NO.		अनु. / REV.												
1-16503-40837		1-16503-40837		01												
गुणक / SH. NO. 01		मूल नं. और या संदर्भ NO. OF SH. 01		01												